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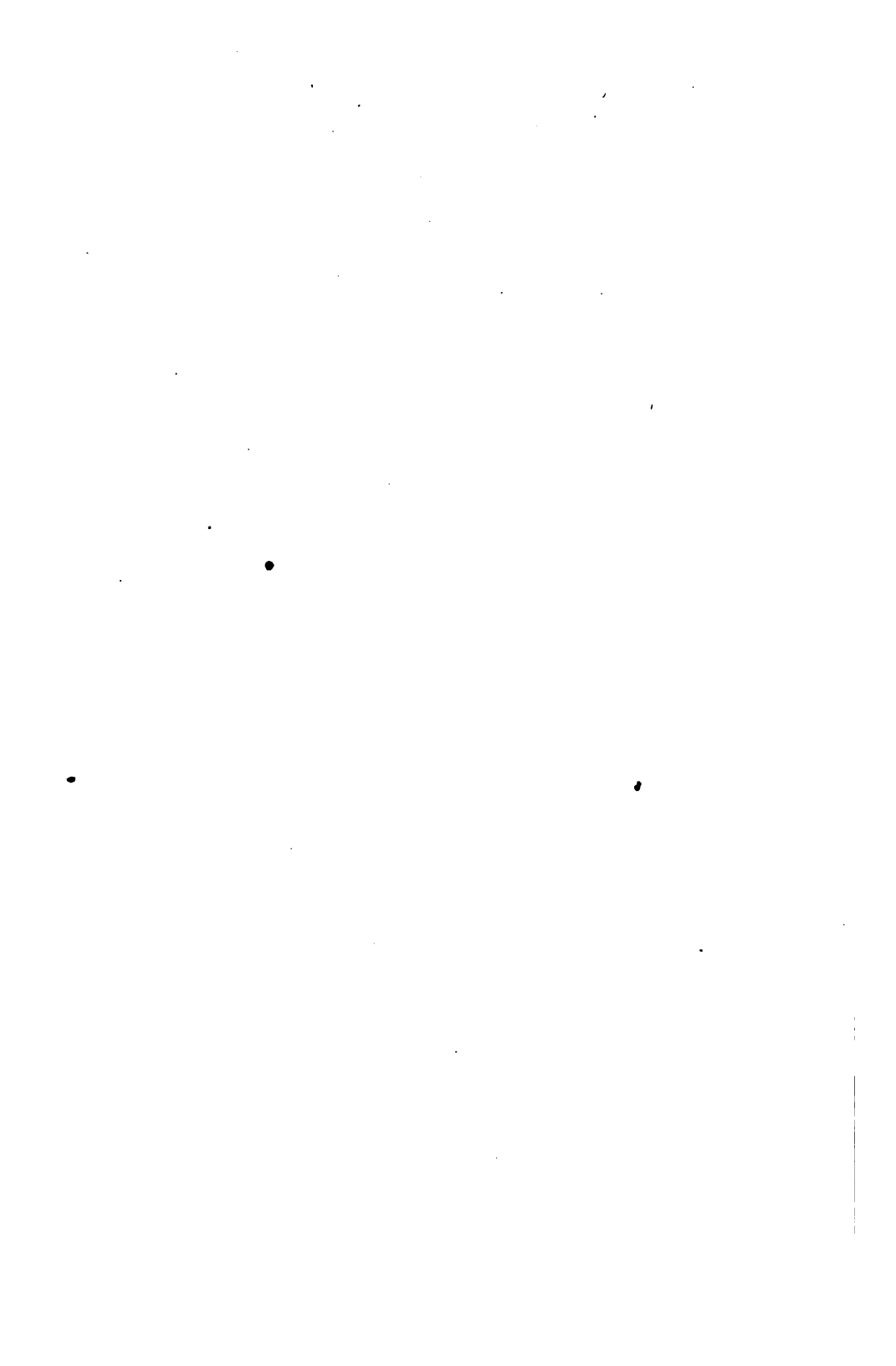
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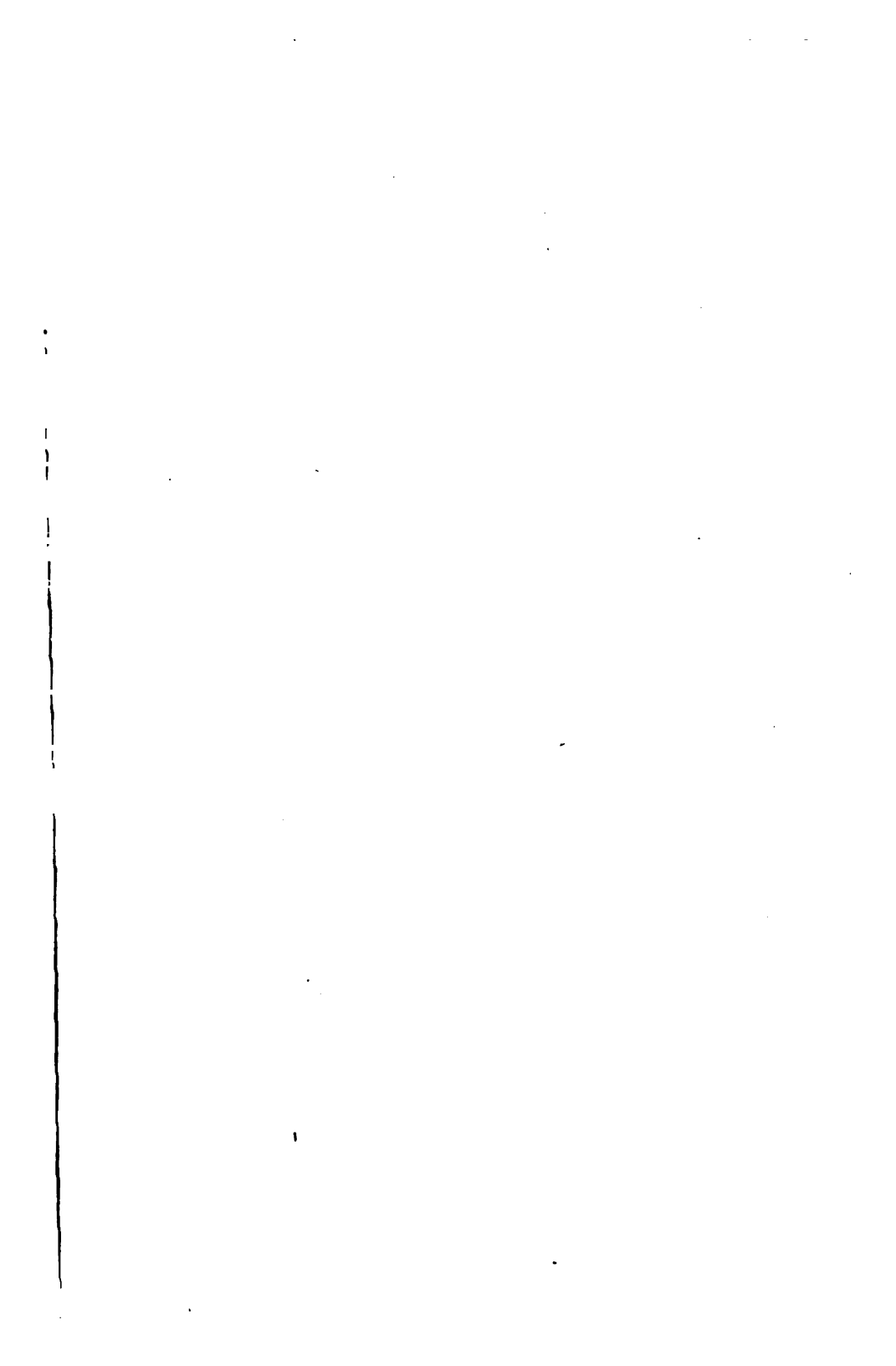
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THE MEDICAL SCIENCES.

EDITED BY
ROBERT SAUNDBY, M.D. ED., F.R.C.P. LOND.
Gynaecology,
LAWSON TAIT, M.D., LL.D., F.R.C.S. ENG.
Surgery,
GILBERT BARLING, M.B., B.S. LOND., F.R.C.S.

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BIRMINGHAM MEDICAL REVIEW.

JANUARY, 1889.

ORIGINAL COMMUNICATIONS.

ON THE VALUE OF PLASTIC METHODS AND THEIR PLACE IN SURGERY.

BY SIR WILLIAM MACCORMAC, M.A., F.R.C.S.,
SURGEON TO ST. THOMAS'S HOSPITAL, LONDON.

(Continued from p 258, Vol. XXIV.)

ONE of the most difficult of plastic operations is to satisfactorily replace a lost portion of cheek when the mucous membrane has been extensively destroyed at the same time. If a flap be transplanted with the raw surface next the mouth the result is seldom satisfactory, as the granulation process and shrinkage which take place in the flap, together with the adhesions which are prone to occur, impede or prevent the subsequent movement of the jaw.

In a case under Dr. Israel's care, in which there was very large loss of substance of the whole thickness of the cheek, including the greater part of the mucous membrane, the angle of the mouth and the outer fourth of the lower lip, after the removal of a cancerous tumour, he fashioned a flap with a long pedicle from the side of the neck extending down to the clavicle where there was no hair, and turned it into the gap, with its cutaneous surface directed towards the mouth, attaching its margins to those of the mucous membrane, along the upper and lower margins of the gap. The wound in the

neck was closed for nearly its whole extent by interrupted sutures. Seventeen days after the first operation, when the flap had united, the external granulating surface was scraped with a sharp spoon, the pedicle divided, and then the flap was doubled on itself, the cut end of the pedicle united to the anterior extremity of the flap, and the margins with the previously pared edges of the skin surrounding the gap in the cheek. In this way the external and internal surfaces of the transplant became cutaneous, and there was no subsequent tendency to shrinkage either externally or in the cavity of the mouth. The angle of the mouth was completed by raising a flap of mucous tissue from the upper and lower lips, and uniting them together over the anterior extremity of the transplant. A posterior opening communicating with the mouth still remained, which was closed by splitting the posterior extremity of the transplant and uniting the margins of the deeper layer with the mucous membrane, and the superficial layer with the skin of the cheek. The final result showed but little deformity: the cicatrix in the neck was inconsiderable; the power of opening the mouth was complete, the buccal cavity being quite large. The skin surface in the mouth was without hair, and closely resembled the mucous membrane.

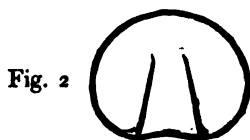
One very important application of these nourished and granulating flaps is as a means of covering the extroverted bladder, a plan suggested by Thiersch, of Leipzig. He gave an account of six cases thus operated on at the Fourth Congress of German Surgeons, held in Berlin in 1875.

Fig. 1.



It is best as a preliminary step to form a new urethra. The penis is usually very short, but the shallow dorsal groove which represents the unclosed urethra is covered by mucous membrane quite ample enough to form a urethral tube (fig. 1). By

making two deep incisions at the junction of the mucous membrane and skin through the whole length of the glans penis, we can afterwards depress the mucous membrane and unite the cut surfaces above it by twisted suture (fig. 2). The rest of the



penile urethra is made by taking a quadrangular flap of penile skin from one side of the dorsal groove, leaving it attached at the edge of the groove. This flap is reversed so that its external surface presents towards the mucous membrane, and is then sutured to the opposite margin of the groove (figs. 3, 4 and 5).

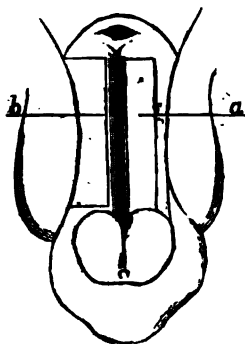


Fig. 3

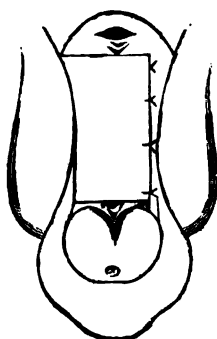


Fig. 4

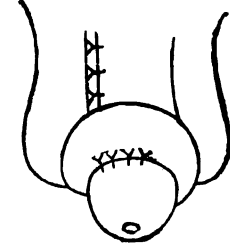


Fig. 5

A flap is then taken similar in shape, but of somewhat larger size, with its free margin at the dorsal groove, and this flap is drawn over the raw surface of the first-formed flap, and attached by suture to the opposite margin of the urethral groove, thus covering the part with a double layer. The interval between the tube so formed and that in the glans penis is closed by a flap turned up from the foreskin. A urinary tube of one or two inches long can be easily made in this way, and to the proximal end of this tube the abdominal flap is afterwards connected.

In the further steps of Thiersch's operation two abdominal flaps are usually needed, one from each side of the abdomen at the margin of the vesicle defect, and their size will be determined by the necessity that each, when freshly detached, should be large enough to completely cover the exposed mucous membrane (fig. 6).

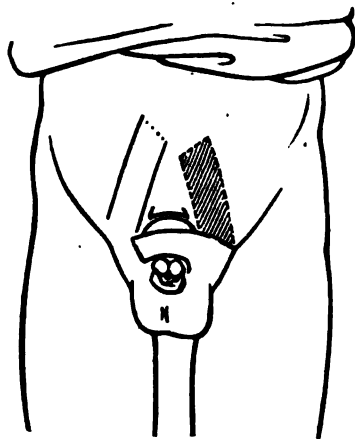


Fig. 6

The inner border of the first flap, corresponding to the inner margin of the separated rectus muscle, closely follows the junction of mucous membrane and skin around the margin of the exposed surface of the bladder, and then curves round as far as the root of the penis.

The outer border of the flap runs parallel to the inner one at a suitable interval, and extends as far as Poupart's ligament below.

The flap is left attached at its upper and lower extremities, being separated in the interval from the subjacent parts as far as the sheath of the rectus, the external oblique aponeurosis, and the fascia lata. Great care must be taken in detaching it at the margin of the bladder, as the structures are very thin and the peritoneal cavity might easily be opened, and over the inguinal canal also, as a congenital inguinal hernia is usually present in these cases.

The flap is now left to granulate, a thin sheet of ivory or a

glass or celluloid being interposed. The plate keeps the granulations close set, and prevents the flaps closing up at the angles. I have usually found oiled silk answer the purpose, and the flap can afterwards be incised a little at the angles where it shows a tendency to close. When the flap has become thoroughly thick and vascular, which generally requires a period of three weeks, the upper extremity is divided obliquely upwards and outwards, turned down across the lower part of the exposed bladder as low down as possible, and so as to push down the stump of the penis, a groove is cut at the junction of the skin and mucous membrane opposite the end of the flap, and to this it is carefully sutured, and thus without tension the lower two-thirds of the exposed bladder will be completely covered.

When the parts are firmly united a similar flap, made from the opposite side of the abdomen, which has been treated in the same way, serves to cover the upper third of the exposed bladder, and it is at the same time attached by its lower margin to the upper margin of the flap first made.

It now remains to unite the lower margin of the flap with the representative of a urethra. This can be done very completely by lifting a scrotal flap over the penis, and thus filling the gap left between the newly-formed urethra and the lower margin of the lower flap. When this is soundly healed and all fistulæ are closed a small flap is taken from the abdomen, near the upper margin of the mucous membrane, and after preparation, it is united by suture to the upper margin of the upper flap.

The bladder is now thoroughly closed over and an apparatus can be used to collect the urine as it flows away. I have only briefly sketched this method of Thiersch, and for further details would refer to his original paper. The various steps require a period of at least a year to complete.

A son of a clergyman on whom I thus operated is now a clerk in an office, and can follow his business without inconvenience.

If plenty of material be used for the flaps there will even be a potential cavity, more or less, for urine to collect in, and its escape may be prevented for a time by the use of a spring pad ;

100 to 200 cubic cm. have been thus accumulated and even retained for a short period, but I have not myself succeeded in accomplishing this result.

Trendelenberg, of Bonn, has devised a plan for narrowing the exposed space in cases of extroversion by producing a diastasis at the sacro-iliac joints. He effects this by dividing the posterior sacro-sciatic, as also the inferior and interosseous ligaments. When this is done we can, by pressing the pelvic bones together with a suitable apparatus, approximate the surfaces of the separated symphysis, and the exposed surface of the bladder is notably diminished. In young children excellent results have been obtained in this way; the amount of exposed surface to cover is much lessened; indeed, in two cases the margins of the cleft were brought into contact.

A great saving of time is effected. The subsequent cavity will be mainly lined with mucous membrane. It is also much more uniform, as only a narrow strip anteriorly is cicatricial.

The repair of the divided sacro-iliac joints appears in the cases hitherto operated upon to be complete.

Mr. Makins, *Med.-Chir. Trans.*, vol. lxxi., is the only one in this country besides myself who has adopted Trendelenberg's method.

Trendelenberg's operation aims at accomplishing a direct union between the opposite sides of the cleft hindered by the separation existing at the pubic symphysis, which varies in amount from two to three and a half inches, a condition which entails a corresponding degree of separation of the recti muscles, and consequent weakening of the abdominal wall.

In children up to five or six years the two halves of the separated symphysis may be brought nearly into apposition after division of the sacro-iliac synchondroses; by keeping up a continuous lateral pressure by suitable means for a sufficiently long time afterwards, the gain may be made permanent.

The child is placed prone on the operating-table, the left fore-finger introduced into the rectum to ascertain the exact position of the sciatic notch, which must be avoided, lest injury befall

either the gluteal or sciatic arteries. An incision two to three inches long is made through the skin and subcutaneous tissues, including some fibres of the gluteus maximus down to the bone, and the soft parts are divided from above downwards for the whole length of the wound, commencing above over the posterior superior iliac spine, and terminating just above the ischiatic notch. Through this wound the posterior ligaments are now divided, and by directing the blade of the knife somewhat outwards the joint will be entered and the interosseus ligaments cut through; when this is done on both sides strong lateral pressure will force the joints open, and at the same time any opposing fibrous structures may be touched with the knife. The pubic bones may now be made to touch, and with the finger in the rectum their relative position can be clearly ascertained. The wounds are purified, sutures and a small drain are inserted in each, and the dressings applied.

A well-padded cushion is now adjusted round the pelvis, and the two halves are drawn together by strapping crossing in front, to which a weight and pulley are connected. With adequate care the wound will heal by first intention, and no pressure, sores occur either on the sacrum, trochanters, or iliac spines, the parts most exposed to pressure.

In the case from which the drawings were made the exposed mucous surface measured two inches before operation, and barely three-quarters of an inch after.

In from four to six weeks the next step of the operation, the union of the margins of the cleft, may be proceeded with.

The best preparation for union is to procure a broad raw surface by paring the margins rather widely, to the same extent, of course, on each side, and the comparative looseness of the abdominal wall permits the drawing of the edges of the cleft together. The paring may be made to include the penis, and thus form at one and the same time a continuous channel for the escape of urine.

The sutures are passed deeply, but should not include the mucous membrane; a few superficial ones may be needed in the

intervals. The urine may be collected by means of an india-rubber tube or catheter.

Great precautions must be taken not to disturb the parts during the after treatment. Part only of the wound heals as a rule by first intention, and one or more subsequent small operations may be required to close any fistulous tracks which remain.

ON THE OPERATIVE TREATMENT OF LOSS OF SUBSTANCE IN NERVES.

Operations for the union by suture of divided nerves are now very frequent and very successful, whether the operation has been performed immediately or after even a long interval from the date of the injury. But very few examples exist of operation undertaken for the purpose of restoring the continuity of a peripheral nerve, when on account of the interval between the divided ends they cannot be united by suture.

A case of nerve grafting of the median upon the ulnar nerve is mentioned by Desprès. In another case Lobker resected a portion of the shaft of the bone, in order to enable him to bring the ends of a separated nerve together, and then suture them.

Phillipeaux and Vulpian, *Archives de Physiologie*, vol. iii., 1870, have successfully replaced a lost portion of the hypoglossal nerve with a transplanted piece of the gustatory. In dogs they twice succeeded in causing the transplanted portion of gustatory to unite with the ends of the artificial gap in the hypoglossal nerve. In one dog the restoration of conducting power in the hypoglossal nerve was evident after seventy-one days, and it was found that the transplanted portion contained old degenerated nerve-fibres, as well as numerous newly formed ones. The second dog died in fifty-four days, and in it, although the transplanted piece of nerve was quite firmly fixed in its new place, there was no production of new nerve tissue. Gluck, *Arch. für Klin. Ch.*, vol. xxv., has repeated these experiments, and filled gaps of three and four centimetres long in the sciatic nerve of a fowl, with a corresponding piece of sciatic nerve taken from

a rabbit. The operation succeeded. Eleven days afterwards, when the wound was reopened, the transplant was found firmly united in its new position, and of quite normal appearance.

After dividing the nerve above the transplanted piece, irritation of the peripheral extremity produced most energetic movements in the limb, and on microscopical examination numerous new fibres and gangliform nerve cells were discovered.

Gluck experimented in eighteen cases with varying success. Some results were more perfect than others. It seems probable that, as in Vulpian's cases, the old nerve fibres are in time completely replaced by newly developed ones from the central end, which traverse the intervening medium. Gluck, however, believes that direct union between the nerve fibres in the transplant and those of the nerve trunk is effected by means of the gangliform cells, and that the nerve fibres in the transplant persist.

After the experimental division of a nerve in animals, followed by suture, Gluck has observed the complete restoration of function in so short a period as eighty to ninety-six hours. Tillmanns says that so far as he is aware there is no case of restoration of the nerve conductivity in man after so short an interval. I have operated in one case for secondary suture of the ulnar nerve at the elbow, which had been divided by accidental injury six years previously, in which the conducting power was established after an unusually brief interval. The day after the operation the touch could be felt and referred to the point touched in the previously anæsthetic area (St. Thomas's Hospital Reports, vol. xv.)

Tillmanns, of Leipzig, *Verhandl. der Deutschen Gesell. für Chirurgie*, 1885, successfully made good a loss of substance in the median and ulnar nerves of a young peasant girl of twenty-three. She had sustained a severe wound, not accurately described, on the inner and anterior aspect of the right forearm some two inches above the wrist. This healed after several weeks' suppuration, but left the hand perfectly useless.

Three and a half months after the injury the girl came under Prof. Tillmanns' care, who found a broad scar running transversely across the lower third of the forearm; there was complete loss of

sensation and of motor power in the area of distribution of both ulnar and median nerves. The fingers had assumed the position characteristic of ulnar paralysis; flexion of the first phalanx and extension of second and third phalanges were impossible. The hand muscles were wasted, deep furrows existed between the metacarpal bones, and the muscles of the thumb and little finger had undergone atrophy. Active movement was completely absent in the little finger, abduction or adduction of the fingers was impossible, and the interossei did not react to the electric current. The only movement left in the thumb was a slight power of abduction. Except upon the radial side of the thumb, sensation was wholly absent in the palm.

Four months after the injury Esmarch's apparatus was applied, and the divided nerves sought for in the cicatrix in which they were imbedded, the peripheral ends being especially difficult to find. The central extremities were bulbous, and separated from the distal by a space of $4\frac{1}{2}$ cm., or nearly two inches. Even with complete flexion of the wrist it was quite impossible to approximate the ends.

Tillmans therefore detached flaps from the upper and lower extremities of the ulnar and the median nerves respectively, sufficiently long to occupy the gap and meet without strain. The ends of these flaps were carefully united with two points of catgut sutures. The matted tendons were separated, and the wound afterwards healed by first intention.

In four weeks the first indications of returning sensibility appeared; a prick of a needle was perceptible throughout the anæsthetic area, and for the most part the place touched was correctly localised. Galvanism was systematically carried out, and in nine weeks slight active movement was possible in the fingers. This gradually increased, and fourteen weeks after the operation the patient could hold large objects such as a tumbler, and even grasp a small one like a pen.

A year after the patient wrote with the previously completely paralysed hand, "I am glad to say my right hand now serves me quite well for all kinds of work; the movements in the

fingers are quite free, and the hand is almost as good as the other one in every respect, except a numbness of the tips of the first and middle fingers."

Tillmanns, on the strength of this remarkably successful case, considers that when the divided ends cannot otherwise be approximated we may, by taking a flap from the proximal end or from both ends, and suturing these together, afford the injured nerve the best chance of recovering its conducting power.

Of course it must not be forgotten that nerve function is sometimes spontaneously restored in the area of distribution of a nerve after it has been divided, and even after a large portion has been excised.

In some cases regeneration of the nerve elements takes place, and the continuity of the nerve is restored. In other cases the nerve influence seems to travel by collateral paths. This may happen when it is most unfortunate for the occurrence to take place. The pain will reappear in cases of facial tic after the division or even excision of branches of the fifth pair of nerves. After division or resection of the infra or supra-orbital nerves, or of branches of the inferior division of the fifth, pain has reappeared in the area of distribution of the nerves with all its characteristic intensity, probably through a vicarious centripetal influence.

Langenbeck, Weir-Mitchell, and Hueter mention instances where sensation and motion have returned after complete division, and in some cases even after extensive excision of the nerve supplying the parts.

Experiment seems to establish quite conclusively that the central end of a divided nerve projects new nerve fibres, and that under favourable circumstances a defect in a nerve may thus be made good.

Vaulair, *Archiv de Biologie*, vol. iii., removed 3 c.m. of the sciatic nerve of a dog, and introduced the cut ends into the extremities of a decalcified bone drainage-tube. After four months the parts were examined, and it was found that the loss of substance had been restored by newly formed nerve fibres

proceeding from the central end of the nerve, while some few proceeded from the peripheral end, the decalcified bone serving as a medium.

Notta describes a case of injury done by a cog-wheel. The soft parts on the outer side of the arm, a little above the elbow, were much damaged, and the musculo-spiral nerve divided. The muscles were torn through and divided down to the bone. The wound healed without difficulty, but the extensor muscles remained completely paralysed, and rapidly wasted. There was anæsthesia in the area of distribution of the nerve. Nevertheless, twenty months after motor power and sensation began to return, and finally the man could use the arm at his work quite well.

Vogt essayed nerve transplantation with a negative result in a case of gunshot injury implicating the musculo-spiral nerve of the right arm. The operation was performed a year and a quarter after the injury, and it was then ascertained that the distance between the divided ends of the nerve was 8-10 c.m., or nearly 4 in. ; portions of both sciatic nerves of a dog, 12 c.m. long, were placed in the gap, and in spite of slight suppuration, Vogt believes they united, but the final result of the case is not known, as the patient was only two months under observation.

Professor Albert, of Vienna, *Deutsch Zeitsch. für Chirurg.*, vol. xviii., p. 318, records a case where, after the removal of a neuroma implicating the median nerve in the arm, he implanted in the gap a portion of the tibial nerve taken from a freshly amputated leg, suturing the ends together with catgut. Ten days later the patient left hospital ; the wound was healed, but without return of motion or sensation in the parts below. The patient could not afterwards be traced.

These two cases are inconclusive, as a sufficient interval had not elapsed in which the value of the operation could be tested. It is possible that at a later period conductivity might have shown itself in the transplanted portion of nerve.

Liètevant ("Les Sections Nerveuses," Paris, 1873), discusses the value of what he terms *greffe nerveuse*, or the engrafting of one nerve trunk upon, and causing its adhesion to another ;

that is, the distal end of a divided nerve is attached to an adjacent uninjured nerve when the injury is such that the divided ends of the nerve cannot be approximated.

This plan is best suited for the large nerves in the upper arm, combining as they do both motor and sensory fibres, springing from several roots, with admixture of the fibres of origin at their origins, and also running sufficiently near to each other to permit of the proceeding being carried out. For instance, where the median nerve is divided in the arm the distal end might be engrafted upon the ulnar, or the ulnar nerve, if divided, engrafted upon an uninjured median.

The border or the contiguous nerve must be refreshed sufficiently to allow the fibres of the grafted nerve to reach the central fibres of the other. This involves a disturbance of the function of the previously uninjured nerve which might prove permanent, and it is as yet doubtful whether lost power of movement, as well as lost sensation, can be restored in this way.

When two adjacent nerves are divided at different levels, and cannot, from loss of substance, be united in the usual way, Lietevant suggests a manner of cross union, which can be easily explained by the diagram, and which may in some cases prove useful (fig. 7).

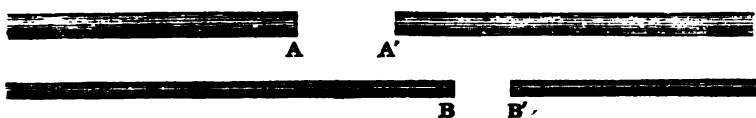


Fig. 7

The central end of the nerve A is united with the peripheral end of the nerve B. The unequal length of the two ends will always permit this more or less easily, and it should be attempted if circumstances forbid an attempt to unite the proper nerve ends together.

Further, after this cross union of the nerves is accomplished, and if the mutually adjacent position of the nerves and other circumstances permit of it, the two remaining nerve ends may be engrafted one upon the other; thus the proximal of the nerve B

is grafted to the nerve A, and the distal end of A into the nerve B (fig. 8). Flourens has established by experiment



Fig. 8

that this proceeding may be successful in animals (Flourens, *Annales des Sciences Naturelles*, vol. viii.).

Desprès, *Gaz. Hebdomadaire*, 1876, seems as yet the only person who can claim a successful case of nerve-grafting in man. In a boy of eighteen he implanted the distal end of the divided median nerve between the separated fibres of an uninjured ulnar. The nerve was implicated in a wound on the inner side of the left arm, caused by machinery. The muscles were laid bare, the median nerve and the brachial artery and vein were also torn through.

On the sixth day after the operation some return of sensation appeared, and finally the patient acquired, it is stated, a most useful hand. The account, however, given of this case is imperfect.

Lobker, *Centralblatt für Chirurg*, 1884, cut down upon the injured parts in a case where the median and ulnar nerves and the flexor tendons had been divided, as the result of a severe injury to the forearm, and were separated a considerable distance. Finding it impossible to approximate the divided ends, he removed, subperiosteally, a portion of the radius and ulnar, long enough to permit the nerve ends to come together without difficulty; the nerves and tendons were then united by suture, and three months after so notable an improvement had taken place that a final complete recovery seemed probable.

Six different operative methods for the treatment of cases of loss of substance and separation of the ends of divided nerves have hitherto been suggested and practised either upon animals or in man :—

1. Transplantation into the gap of a piece of nerve taken either from the same species of animal or from another species.

2. Uniting the peripheral end of the injured nerve to an adjacent uninjured nerve. Nerve-grafting (*Grefte-nervense*).

3. If the defect concern two adjacent nerves, but at different levels, the union may be effected, as already described, by a combination of cross union and grafting where practicable.

4. A pedunculated nerve flap, either single or double, may be employed ; a single one being taken, of course, from the central end of the nerve, and the double from both ends.

5. The divided ends of the nerve may be partially encased in a bone drain, which serves as a means of fixation, and also a conducting medium for the new nerve fibres to travel along.

6. The subperiosteal resection of a portion of the shaft of the long bones, of sufficient length to allow the divided extremities of the nerves to be easily approximated and united by suture, has been successfully adopted.

In operations for loss of nerve substance we must prevent cicatricial material forming between the nerve ends, as this hinders the projection of nerve fibres from the central towards the peripheral extremity.

The new fibres travel along the interposed medium procured either by implantation of a portion of new nerve, or by the flap method, or through the decalcified tube of bone. Even sutures of catgut used to draw together the nerve extremities, without being able to bring them actually into contact, will serve as a good medium for the new nerve fibres to traverse. These media seem to hinder the intrusion of the cicatricial element, as well as to constitute a road for the new fibres to travel along.

UTERINE MYOMA.

BY LAWSON TAIT, F.R.C.S.,

PROFESSOR OF GYNÆCOLOGY IN QUEEN'S COLLEGE, BIRMINGHAM.

IN 1874 I drew attention to the fact that up to the present time two apparently distinct kinds of tumours had been confounded under the term "fibroid tumours" of the uterus, tumours having pathological and clinical features perfectly distinct, and I ventured to bring into use the term "soft œdematous myoma"

to define one class, and the term "nodular (generally multinodular) myoma" to classify the other. All my subsequent experience goes to confirm my views on this subject, and to urge that the old terms "fibroid" and "fibroma" should be discontinued, as well as the old classification of submucous, interstitial, and subperitoneal. I have already said that the terms "fibroid" and "fibroma" are completely erroneous. No one can defend them. The old classification is wrong, because it is confusing and useless. A soft oedematous myoma is always interstitial, and a multinodular myoma may be, in fact generally is, at once submucous, interstitial, and subperitoneal.

The following are two sketches of sections of such tumours presenting their characteristic relations to the bulk of the uterus,



A.—Section of Oedematous Fibro-myoma.



B.—Section of Multinodular Fibro-myoma—showing the nodules in the three situations—submucous, subperitoneal and intramural. (Drawn from actual specimens by E. Teichelmann.)

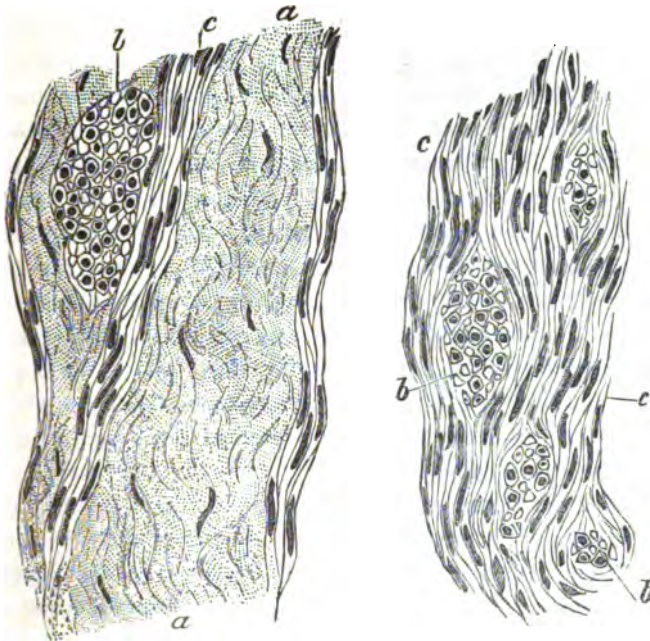
and also two sketches of microscopic sections of the same tumours. The soft oedematous myoma is always solitary, one great mass covered by a thick uniform layer of increased and perfectly normal uterine tissue. The uterine cavity runs up one side of it, separated from the tumour by a regular layer of uterine tissue covered by endometrium, and showing that the tumour grew from one point in the wall. The large globular mass is always easily removed from the tissue in which it lies by enucleation, never leaving behind any subsidiary masses, as is the case in

multinodular disease. When this enucleation is complete, save for the absence of the endometric characteristics of gestation, it is quite impossible to tell the uterus from which the tumour has been enucleated from one in which a pregnancy had existed. The process of enlargement of the uterus inhabited by a soft oedematous myoma seems to be identical with that witnessed in pregnancy. They are the tumours which can easily be enucleated; only, and unfortunately, we rarely see them till they are above the brim of the pelvis, far too large to remove by the vagina. I have never seen one in its early stage. When one of these tumours is removed and cut into, an enormous quantity of serum drains away in a few hours, so that a thirty-pound tumour may diminish to one-fourth of that weight. They present a peculiar gelatinous appearance on first section, altogether different from the multinodular tumour, and the elementary bands of fibres of which they are composed do not seem to have any definite plan of arrangement, at least I have not been able to guess at any. Very different are the naked eye appearances of the multinodular myoma. Its constituent masses are of all sizes, which seem to have got entangled in the web of the uterine tissue. They are in all sorts of places, and are, as I have said, generally in the same case, submucous, subserous, and interstitial. They can be enucleated from their matrices, but with infinitely more difficulty than the solitary mass of the oedematous myoma; and surgically, enucleation is of no avail. I never saw a nodule having its origin in the true cervix, and I regard myoma of both kinds as essentially a disease of the body of the uterus. Those who have advocated enucleation for myoma do not seem to know that there are two distinct varieties of the disease.

The multinodular tumours are very dense, almost cartilaginous. certainly the characters of the tissue of their periphery is that of greater maturity than is that of their centres, and this tissue is always more or less lost, as it were, in the true tissue of the uterus at one or two points where vessels are found to enter; and these vessels, I have found by injection, permeate the tumour to its centre. I have found no such state of things in

the soft oedematous myoma. In a few instances of very successful section cutting I have been able to satisfy myself that in multinodular myoma the arrangement of the bands of muscular fibre was upon a definite and concentric plan ; and taken together with the relations of the blood vessels this seemed to me suggestive that these tumours are endogenous.

Both varieties are clearly the product of the overgrowth of the normal chief element of the uterus, unstriped muscular fibre, with its special fusiform cells and rod-shaped nuclei. The soft oedematous myoma has its fibres widely separated by cavities containing serum and "mush," which looks like the remains of effete cells. The hard nodule has its bands of similar fibres closely packed and all fresh looking.



Microscopic section of oedematous fibro-myoma. *a.* Degenerated tissue infiltrated with serous fluid. *b* and *c.* Muscle fibres, transverse and longitudinal.

Microscopic section of a multinodular myoma, showing bundles of unstriped muscle fibres cut (*c*) longitudinally and (*b*) transversely.

(Drawings made and sections cut by E. Teichelmann.)

I fancy, therefore, that the soft tumour is exogenous, and this hypothesis is supported by the facts that when cut into it never bleeds as the hard tumour does, and it is at once killed by opening the capsule in a way that is certainly not the case with the multinodular tumour, for I have seen that granulate and flourish in the external wound after a hysterectomy, when the clamp wire has cut it in halves. In neither of the varieties do we ever see immature cell-growths, and this is why we can say of uterine myoma, it is the only tumour besides lipoma which is never malignant.

Not only are the naked-eye and microscopic characters of the two varieties of myoma quite distinct, but the facts of their general pathology, so far as I have been able to observe them, are totally different. Multinodular myoma is essentially a disease of menstruation, that is to say, there can be no doubt whatever that its growth is in some way associated with the peculiar periodic function of the uterus. When impregnation takes place, the uterus, under some mysterious influence which governs its vascular supply, increases the number of the muscular fibres in its walls generally, but by no means always, in a gradual and uniform manner. I have seen many cases where the uterine walls seemed to be no thicker than a towel at the seventh and eighth month of pregnancy; yet during the last two or three weeks the walls attained their normal thickness, and the labours were quite natural. There can be no doubt that the mechanism by which the increase of the uterine fibres takes place is directly that of an increased blood supply, and modern physiological discoveries have shown that there is a system of parietic nerve fibres, whose stimulus induces dilatation of the walls of the arterioles. In the uterus it is likely that this special nervous system is more active than in any other organ, and that therefore even a slight accident, by throwing it out of order, would display more tangible results than would be seen elsewhere. It is quite certain that these multinodular myomata are strictly localized in their origin, and I think it likely that they grow endogenously from an excited arteriole and its

branches, the change originating probably in the mere perversion of a physiological act. This would explain many facts in connection with them already mentioned, and the arrest in their growth which always occurs at or soon after the menopause. I think it also explains the fact which I have repeatedly observed in subperitoneal myomata, that they increase during pregnancy and diminish after parturition.

The great bulk of cases of multinodular myoma are seen after the age of 35, perhaps we might almost say 40, and though, as I shall afterwards show, their presence in the uterus may delay the menopause indefinitely, yet when it does occur, either naturally or as the result of operative interference, they are arrested in growth and dwindle. In fact, when the appendages are removed for multinodular myoma under the age of 40 the tumours generally disappear entirely.

But the facts observed in connection with soft oedematous myoma are very different. It is no regard of age. The largest I ever removed, over sixty pounds, grew almost entirely after the menopause. The patient was brought to me in 1880 by the late Dr. Luce, of Stratford-on-Avon, and was then 55 years of age, and had passed the climacteric something like two years. Her menstruation had always been regular, but rather profuse for about sixteen years before its cessation, she had never been pregnant. When I saw her first she had a large soft oedematous myoma occupying the whole of the pelvis and reaching nearly to the umbilicus, which she was quite conscious was increasing rapidly. I advised her to have it removed, but she declined any operative interference, and I heard nothing of her till she was sent to me by Dr. Latimer Greene in March last. The tumour had enormously increased, and a large mass of it protruded through an exomphalic ring constituting a huge structure over which the skin was threatening to give way. The size of the tumour entirely prevented her earning a living as a midwife; she suffered from a nasty bronchial catarrh and had a purplish colour of the face which was most unpromising, whilst it was perfectly certain that a large part of the tumour was adherent to

the peritoneum. The old lady was nearly 63, yet she was very anxious to have the tumour removed. I consented to undertake the responsibility, and the operation was performed on March 20th in the presence of Dr. Macan, Master of the Rotunda. She made an admirable recovery, the tumour proved to be, as I anticipated, a huge solitary soft œdematous myoma. After it had drained a large quantity of serum away, it weighed 26½ lbs. and I am sure it was a good deal more than twice as much at the time of removal. Within four months she had resumed her occupation as midwife. It is of course doubtful whether this tumour did not start into existence before the cessation of menstruation, but it is within my own knowledge that it increased from something like 10 lbs. to something like over 50 lbs. in the eight years interval between the two occasions of my seeing her, and during that time she had never menstruated at all.

I have already done hysterectomy for this kind of tumour at 18, 24, 29, 30 and 31 years of age, and I am almost being forced to the conclusion that removal of the uterine appendages in this disease, though it may be perfectly successful in arresting menstruation, may yet entirely fail to arrest the growth of the tumour. On the other hand, the youngest patient upon whom I have done hysterectomy for multinodular myoma was 37.

On this point, however, I am not yet certain, but even what I have said is enough to make us believe that while the hard multinodular myoma is a disease of the menstrual life, soft œdematous myoma certainly is not. The oldest patient for whom I have done hysterectomy for soft œdematous myoma was sixty-three, and the oldest patient upon whom I have ever done hysterectomy for hard multinodular myoma was fifty-two, facts of themselves sufficient to show that the two diseases are quite distinct, especially when it is remembered that in the former case the tumour grew entirely after the establishment of the climacteric.

A very strange fact concerning the history of uterine surgery and pathology is the utter disregard in which myoma was held until quite recently as a serious disease. Pathologists were

accustomed to see multiple myomatous tumours of the uterus at *post-mortem* examinations and to regard them as mere curiosities, of no account. Obstetricians saw anæmic women going about from hospital to hospital, or from consulting room to consulting room, but they do not seem to have associated the uterine tumours and the profuse menorrhagia, with its resulting bloodlessness, in any active relationship. It is really little more than thirty years ago since active attention was drawn to the fact that myoma was frequently a fatal disease. There exist still some antiquated practitioners who tell their patients, when a myoma is discovered, that it is merely a "lump in the womb, of no consequence, which will cease to trouble them after the change of life." The earliest notice of uterine myoma which I have met with is by Astruc, who vaguely describes it as "sarcoma of the uterus," and clearly he had not seen much of it, for if he had, its salient features would have been more clearly rendered by a writer who has described pyosalpinx so precisely. I suspect that in Astruc's day uterine myoma was very rare, and that it has of recent times become very common is abundantly evident. The proof that such diseases are progressing is given by the fact that this very disease, unknown amongst the savage women of Africa, has become a very scourge amongst their descendants (of a very few generations) in the Southern and Central States of America.

Some thirty-five years ago efforts to treat myoma by heroic doses of ergot were made by Hildebrandt and others, but they proved ineffective. Greenhall advocated their removal by causing them to slough out by piercing them with a red-hot iron. Lizars (1825) and Granville (1827) stumbled into hysterectomy when they started to perform ovariectomy, and Spencer Wells (1864) had the same fate. In 1872 Hegar, of Freiburg, and I simultaneously conceived the idea of removing the uterine appendages, and this operation has taken an established place for the treatment of all myomata, unless, for reasons to be described afterwards, hysterectomy be an inevitable alternative. Great efforts have been made to adapt less energetic measures, such as the cauterization of the internal uterine

surface by the electric current, by the injection of styptics, &c., &c., but none of these have any permanent good effect, and indeed they are more risky than the surgical operation. Much fierce discussion has been vented upon this question, and at least one satisfactory result has been arrived at: it is now admitted that uterine myoma is a very frequent and very serious disease.

In the early stage of a myoma, whether it be of the hard multinodular, or of the soft œdematous variety, there may be an utter absence of symptoms. Indeed, this is the case throughout the course of many cases of multinodular myoma, for it is certain that numbers of women bear them unknowingly to their graves. If the tumours start their growth close to the climacteric period, and if they do not delay the accomplishment of that change, they may never cause the slightest inconvenience. But often they cause an indefinite delay in the arrest of menstruation, and I have been obliged to remove the uterine appendages at the age of fifty-six on account of the hæmorrhage from a myoma.

The most troublesome symptom always is hæmorrhage, and that invariably consists in menorrhagia, unless the tumour is polypoid, and then the hæmorrhage becomes continuous so soon as the polypus is extruded from the uterus. When not so extruded the increase of hæmorrhage consists in the periods becoming more frequent than they should be, much more protracted, and much more profuse. It is, however, very rare that there is no intermenstrual period. Pain is not a usual symptom unless the tumour be exercising pressure in the walls of the pelvis, or on the bladder, or on some other pelvic structure. Retention of urine due to the presence of a myoma jammed in the pelvis is quite a frequent symptom, and real difficulty of moving the bowels, from pressure on the rectum, is not unusual. It is the multinodular tumour always which causes these symptoms, for the soft œdematous myoma always rises quietly out of the pelvis just as the pregnant uterus does, and it rarely calls attention to its existence save by its increase in size.

Hæmorrhage is almost exceptional in the soft œdematous myoma.

If the tumour has risen out of the pelvis its presence may easily be determined by placing the hand over the lower abdomen. If it has not so risen it can be discovered by vaginal touch, and generally precisely determined by the bimanual method of examination. But a differential diagnosis is not always possible, even in the most experienced hands, between a small myoma, a retroverted and subinvolted uterus and a case where the appendages are adherent in a mass upon the back of the uterus. The sound may help, but the assistance obtained from it is far more vague than is generally supposed, it just as often gives mistaken indications as those which are accurate, and the more experienced a practitioner is the less he will use it. The multinodular myoma will nearly always reveal itself by the features to which it owes its name. The soft œdematous myoma on the contrary, so very closely resembles pregnancy that in two instances, with one hand actually in the abdomen and the other in the vagina, I have been unable to determine the exact condition. In both of these cases I closed the abdomen rather than run the risk of opening a pregnant uterus, both patients recovered, and by the subsequent progress of the cases, I was justified in a second attempt in which I removed successfully huge soft œdematous myomata. In some cases it is absolutely impossible to discriminate between adherent appendages and small multinodular myomata until the fingers are down in the pelvis through an abdominal wound.

A final method of investigation is spoken of in text-books, that of dilating the uterus and exploring in that way. I confess that I have found this so much more dangerous than exploring from within the abdomen that I prefer the latter method, especially as it gives already the road for effectual treatment whatever be the condition.

Should the case turn out to be one of multinodular myoma, the cervix will be found so rigid that satisfactory dilatation is extremely difficult and by no means free from risk; and even

when it is accomplished it is useless, as enucleation of the nodules is impossible. Those who have advocated enucleation have been clearly and entirely ignorant of the two kinds of myoma. If dilatation is practised for a soft myoma the chances are that the process will kill the myoma and that it will slough, and as these tumours are rarely seen till they are of a size too large to pass through the pelvis, the result will be most hazardous.

Finally, nothing is more risky than dilating the uterus or tinkering with the uterus in any way when the uterine appendages are adherent behind it.

Having diagnosed a case as one of uterine myoma what is to be done with it? The answer to this question will depend upon the age and position of the patient and the severity of the symptoms. If the patient is under thirty, removal of the uterine appendages may be at once accepted as the proper course, for whether the symptoms be severe or not, the certainty that it will increase in growth at that time of life is so great, that operative interference will surely be demanded sooner or later, and it is far safer that it should be done at once. The mortality of the operation, as I shall afterwards show, in the early stage of the disease, is a mere bagatelle and the certainty of cure is at least 95 per cent. Nothing so brilliant can be claimed for anything else in surgery. Upon the general arguments for and against these operations, I shall dwell by-and-bye, so that here I need not discuss them. If the patient is over thirty-five years of age I should advise watching the case at longish intervals so as to determine the rate of growth, and to operate at once if it be found that the rate is at all rapid. After forty, if the hæmorrhage is not very severe, and even if it is, a fair trial may be made of the use of the salts of potash and large doses of ergot, together with stringent confinement to bed during each period and *during the whole of its duration*. This is of far more use than anything else, and it is the reason why we are obliged to operate on poor women when we can afford to hold our hands with rich ones. I have pulled a well-to-do woman through a twelve years' illness due to a myoma, without operation. She dreaded any kind of cutting, though she would have submitted to anything if

I had pressed it. And I confess if I had been the patient I should have preferred the 5 per cent. risk of the operation to the ten years' confinement to the couch, but she did not. But with poor women to discuss such delays is an impossibility. The greatest good and the kindest thing for a hospital patient—especially a woman—is to cure her speedily, and for myoma that cure lies in the removal of the uterine appendages. Under no circumstances do I sanction uterine tinkering with injections of astringents or electrical currents. All these things are dangerous, far more dangerous than the operation, are painful, irksome, tedious and expensive, and whatever good may result it is not permanent.

There is a curious natural termination of myomata and one of which I wish we could discover the method, that of their total and unexpected absorption. Such a phenomenon has been described by several authors; but it is just the sort of occurrence which it is difficult to believe in till it has been seen, and as I have seen it several times I believe in its occurrence. The first case that I saw was one in which I determined the presence of a myoma as large as an orange in the posterior wall of the uterus. The patient was under observation for nearly three years, during which time she suffered from profuse menstruation. No change in the tumour took place in that period, and the removal of the tumour was discussed at intervals, the patient never, however, making up her mind definitely to undergo the risk. I dilated the cervix with tangle tents after she had been under my care about a year, and satisfied myself completely as to the nature of the case. After this, the treatment was continued for nearly two years, chiefly by the bromide and ergot, but it made no change either in the amount of loss or in the tumour. She went to live on the continent for about fifteen months, chiefly in Russia, and had no treatment whatever during that time, yet when I saw her last, some eight years ago, there was no trace of the tumour and she has since married and borne children. We could not account for the disappearance of the tumour. She had no illness at all referable to the uterus of an acute kind, and had passed no substance,

so that the tumour could not have been expelled, and she was quite as much astonished as I was at the unexpected improvement in her condition. Of course the objection must be entertained that perhaps the tumour was some unusual variety of hæmatocele or other kind of tumour which we find is usually absorbed. I am positive, however, as to my diagnosis, and my view is supported by the unaltered state of the tumour for nearly three years, in spite of various kinds of treatment.

I have seen a myoma disappear after an abdominal section intended for its removal, yet where nothing was done except handling the tumour with the result of deciding that it was irremovable. This experience has been recently confirmed at a meeting of the Imperial Royal Society of Physicians at Vienna, where Professor von Mosetig showed a case of myofibroma of the uterus, which was of particular interest, owing to the course of the disease. The history of the case showed that the patient had suffered since February, 1888, from severe pains in the sacral and pelvic regions, as well as from constipation, difficulty in micturition, and severe metrorrhagia. Examination revealed the presence of a solid and elastic tumour, which was quite fixed, and filled the whole pelvis: the tumour filled the posterior *cul de sac*. At the request of the patient, who was anxious to have something done, an exploratory incision was performed on October 7th. On opening the abdomen a solid, elastic tumour, as large as a man's head, and quite immovable, was found; it filled the large and the small pelvis, and was close to the sacrum. When the tumour was exposed it presented a peculiar appearance; it became congested, assumed a dark-red colour, and spontaneous rupture of blood-vessels took place in some spots. An operation was not indicated under such conditions; the abdomen was closed. The abdominal wound healed without any trouble, and the patient said that the pain and discomfort were less than before. When she was examined a second time, they were not a little astonished to find that the tumour had shrunk to half its former size, being scarcely as large as a child's head, while the posterior *cul de sac* was full, and the tumour had become movable. The tumour continued to

diminish in size, so that when the patient was presented to the Society it was scarcely as large as a man's fist. Professor von Mosetig did not know of any similar case in medical literature. He explained the occurrence by the supposition that the disappearance of the myofibroma was due to the intense hyperæmia which had been observed during the operation, just in the same way as soft sarcomata may disappear under the influence of severe erysipelas, &c.

I know of three cases in my own practice where such disappearances have been completely effected. Unfortunately, I know a very much larger number where no such result has been obtained, and therefore whilst no dependence can be placed on mere exploratory incision as a method of treatment, this strange fact, coupled with many of a similar kind to be afterwards described, constitutes an argument for the free application of the principle of exploration.

A fourth case of the kind is now under my observation, and is very worthy of being given in detail for many reasons.

The lady was a Jewess, aged 34, in whom a large myoma had been diagnosed by the late Dr. Schroeder, of Berlin, and others, and in that opinion I entirely agreed when she was brought to me in May, 1888. From the tumour she was suffering very little, and was hardly conscious of its existence, but she suffered much from a gall-bladder full of concretions, and this was the immediate cause of her being sent to me by Professor Gluge. I performed cholecystotomy a few days after I saw her first, at which time the myoma reached quite half way up to the umbilicus. I did not, of course, go anywhere near the tumour at the time of the operation, did not touch it. I saw her again a fortnight ago (Nov., 1888), and found to my delight that the myoma had receded into the pelvis, and was certainly not one-third of the size it had been six months before. There could be no other known cause of its reduction than the abdominal section, as no kind of treatment had been directed towards it—as a matter of fact they had forgotten all about it.

(To be continued.)

SOME POINTS CONNECTED WITH PERIODIC BREATHING.

BY G. A. GIBSON, M.D., D.SC., F.R.S.E.,
FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH,
AND LECTURER ON MATERIA MEDICA AND THERAPEUTICS AT
SURGEON'S HALL.

By the various writers who have devoted themselves to the study of disturbances of the rhythm of the respiration, different views have been taken in regard to the classification of the symptoms observed. It is held on the one hand, that all examples of intermittent respiration are simply varieties of one type, linked together by a regular series of gradations; it is asserted, on the other, that there are sharp lines of demarcation which distinguish several kinds of phenomena essentially different from each other. Into the merits of this discussion it is no part of the present paper to enter, but in the pages which follow it will be found that my opinion is distinctly inclined towards the view that there is no essential difference between the various modifications of the respiratory rhythm. According to this acceptance of the facts, periodic breathing is understood to denote intermittent respiration, irrespective of the regularity or irregularity of the pauses which take place, and also irrespective of the manner in which the pauses occur. In a characteristic example of Cheyne-Stokes respiration, for instance, the pauses occur with a certain degree of regularity, and the alternation of activity and repose takes place by means of a series of crescendo and decrescendo respirations, while in a typical example of cerebral breathing the pauses take place irregularly and the transition from the one phase to the other is abrupt; there are, however, many intermediate varieties of periodic breathing which serve to unite these two outstanding forms.

It is now generally known that periodic respiration is not infrequently accompanied by periodic changes of phenomena depending upon the condition of the great nervous centres. The centres which are most commonly involved in the general

condition causing the respiratory symptom are the vagus, vasomotor, pupillary, and convulsive centres in the medulla oblongata, as well as the higher centres of the brain concerned in the maintenance of the conscious state. Periodic variations in the rhythm of the respiration are accompanied, for this reason, by periodic changes in the rate and tension of the pulse, in the size of the pupil, in the state of the muscles, and in the condition of the mind, as to sleep and waking, consciousness and unconsciousness. Into the general cause of these different phenomena it is not my present intention to enter.

The purpose of the following remarks, however, is to show that whatever may be the nature of the condition underlying the associated symptoms, it may begin to cause the effects which depend upon it by affecting the lower centres in the first place and spreading to the higher, or it may commence in the higher and afterwards invade the lower centres. This is an aspect of the subject to which no reference has hitherto been made in the extensive literature which has already been accumulated in regard to it.

Taking up, in the first place, disturbances of the respiratory rhythm, unaccompanied by any of the commonly associated phenomena, the simplest mode of occurrence of such a symptom which has fallen under my observation, was the appearance of typical Cheyne-Stokes breathing during the progress of a case of pneumonia. The patient in this instance was a lady, aged 73, who was attacked by pneumonia affecting a limited area of the base of the left lung. The temperature never exceeded 103° F., and the pulse was never above 108; the respirations, however, reached 36, and there was a considerable amount of coughing. From the disease she made an excellent recovery. On the third day after the crisis, while the temperature was 98·2° F., the pulse 80, and the respiration 28, Cheyne-Stokes breathing appeared. It was present during a period of four days, and at no time could any changes in the rate or tension of the pulse, in the state of the pupils, or in the condition of the consciousness be observed to accompany the different phases of the respiration.

In this case it seemed probable that the centre concerned in the maintenance of the respiration was exhausted by the troublesome cough, as well as by the effects of the recent febrile affection. It could hardly be regarded as within the bounds of possibility that the small area of pulmonary disease could have diminished the oxygenation of the blood to such a degree as to act on the medulla.

Similar cases in which periodic breathing has been caused by tubercular meningitis have come under my notice without any associated phenomena. In some of these the intermissions have been regular, but in others they have been very irregular.

An interesting case of cardiac failure was recently under my care, in which Cheyne-Stokes respiration made its appearance. In this instance, however, the cause which gave rise to the respiratory symptom affected the centres for the movements of the iris and the eyelids, as well as the higher centres for mental processes. In such cases the period of breathing is accompanied by the return of consciousness, opening of the eyelids, and dilatation of the pupils; the pause, on the contrary, by contraction of the iris, closure of the eyelids, and a condition resembling sleep. The patient in this instance was a gentleman, 66 years of age, who lingered for several months before he died. During this period the symptoms just mentioned occurred at frequent intervals.

It is in uræmia, according to my experience, that periodic breathing is most frequently met with, and it is also in this affection that it is most commonly associated with the other phenomena referred to above. In several cases presenting the complex symptoms known as uræmia, periodic breathing has been, under my observation, accompanied by alternate contraction and dilatation of the pupils, closure and opening of the eyelids, unconsciousness and consciousness, and in one or two of them there have been at the height of the respiratory movements conjugate deviation of the eyes and general convulsive movements of the whole body. Such cases afford a complete clinical picture of the associated symptoms. In many other patients suffering from chronic renal disease and its consequences

there is an unvarying condition of unconsciousness with periodic breathing.

The cases thus shortly referred to present a regular series of symptoms, commencing with those showing consequences depending upon some affection of the respiratory centre alone, and passing through others having a progressive tendency to involve different centres.

But the periodic changes produced by alterations of the centres may commence in, and be limited to, those which are not concerned in vital phenomena. The case of a child, who was lately under my care when suffering from what clearly seemed to be tubercular meningitis, but which, owing to the recovery of the patient, may appear to have been possibly an error in diagnosis, will illustrate my meaning. The patient was a little girl, aged three years, presenting all the symptoms of subacute tubercular meningitis. During the course of the disease, when watching her carefully one day, a periodic closure of the eyelids attracted my attention, and on further observation it was easy to determine that along with this closure of the lids there was a simultaneous contraction of the pupils, and a state of complete unconsciousness. This condition remained for several seconds, the eyelids were then raised, the pupils dilated, consciousness returned, and the child raised her head to look about. The conscious state was present for some time, how long it is not possible for me to say, as it did not occur to me to notice the interval, and was in its turn followed by the unconscious condition. In this case there was never, so far as my observation went, any tendency to a periodic change in the rhythm of the breathing.

It seems to me that such a phenomenon can only be regarded as analogous in every way to intermittent respiration, and, if this be granted, it follows that the thesis with which this contribution began must be admitted to be proven.

REPORTS OF CASES.

THREE CASES OF SARCOMA OF THE PLEURA.

BY ROBERT SAUNDBY, M.D. ED., F.R.C.P. LOND.,
PHYSICIAN TO THE GENERAL HOSPITAL.

Case I.—C. C., f., 35, dressmaker, admitted April 8th, 1886, with pain on the left side of her chest, cough and shortness of breath.

She had been ill four months, and attributed her illness to a cold caught in changing house. She miscarried soon after the cough began. She had had profuse night sweats. At the beginning of her illness she spat about a tablespoonful of blood on one occasion, but had seen none since. The expectoration had been very little. She had wasted a great deal, and had lost her appetite.

The previous health had been pretty good, she was not strong but had had no definite illness. She had been married six years and had had four children, of whom three are living; the eldest is always ailing. The one that died lived only one day.

Her mother died of phthisis, aged 37: her father and brothers and sisters are all alive and healthy.

Present Condition.—She was a poorly nourished, sallow, anæmic woman. T. 101·8, R. 36, P. 120.

The *left* side of the chest in front projected at the junction of the ribs and cartilages, and the superficial veins were greatly dilated.

There was dulness over the left side anteriorly. The breath sounds and vocal resonance were diminished and pectoriloquy was present. Below the clavicle the breathing was amphoric with occasional metallic crepitations. In the axilla the percussion note was resonant, but at the lateral base it was again dull. Breath sounds rather feeble, expiration prolonged, some pectoriloquy. Behind there was dulness all over the left side,

not quite absolute. Breath sounds cavernous with metallic crepitation and pectoriloquy. Just below the angle of the scapula crepitation was very abundant.

On the *right* side the percussion note was normal ; the breath sounds were harsh and accompanied behind by a little crepitation.

The *heart's* apex was in the fifth left interspace in the nipple line ; its area of dulness could not be defined ; the sounds were free from murmurs. Pulse regular but weak.

The *liver* dulness commenced in the fifth right interspace and extended downwards two or three inches below the ribs.

She complained a good deal of pain over the loins and sacrum. The anterior vaginal wall was prolapsed ; the perinæum was rent to the sphincter ani, and the uterus was in a condition of descent. (Dr. Malins).

The tongue was clean ; there was some flatulence and weight of the food, and the bowels were constipated.

A hypodermic needle inserted into the 9th left interspace posteriorly drew off a little blood ; in the 6th space it drew off about 15 minims of blood-stained serum.

Progress of Case.—The temperature continued high, always over 100°, and sometimes reaching 103° or more. She coughed a good deal, and expectorated a large quantity of purulent sputa, in which a few tubercle bacilli were found by Dr. Crooke. Antipyrin controlled the temperature to some extent, and she slept better while taking it.

On May 10th she became much cyanosed, the pulse was 96 and irregular ; the respiration 60. She died the same evening.

Necropsy, May 17th. (Performed by Dr. Crooke).—On opening the abdomen an enlarged liver was seen whose edge was pushed down nearly to the anterior superior spine. There were numerous white granules, patches, and nodules scattered over the surface of the liver and on the parietal peritoneum. On opening the thorax the *left* lung was adherent to the thoracic wall in front as well as laterally and behind. On separating it from the wall a large cavity was opened from which a quantity

of offensive pus escaped. The *right* lung was not adherent. On the *left* side there was a large yellowish white mass of firm fibrous growth at the apex of the lung, which extended upwards, into the neck above the 1st rib and clavicle, and downwards to the roots of the large vessels involving the aorta, completely surrounding the pulmonary artery, and invading the mediastinum between the left lung and the pericardium. The pleura and pericardium were adherent, but the growth involved the upper part of the pericardium where this sac covers the great vessels. From the primary mass the growth spread all over the pleura, which was studded with oval or roundish patches of new growth. On cutting into these the lung tissue did not appear to be invaded, at least it was sharply marked off from the growth. But at the apex of the lung, where the growth was most extensive, it did invade the lung. The whole of the left lung was solidified by an infiltration of an admixture of tubercle and new growth; it contained many cavities, the largest being $3\frac{1}{2}$ by $1\frac{1}{2}$ inches, filled with very offensive pus. The most solid parts on section presented a greenish gray granite appearance. The glands at the root of the lung were swollen and infiltrated with new growth.

The *right* pleura shewed some lymph at the base and a few small nodules of growth. The right lung was infiltrated with grey and yellow tubercle most marked in the upper lobe.

Heart 9 oz., pericardium involved by growth at upper part; excess of epicardial fat; 4 to 5 oz. of fluid in sac of pericardium; valves of heart normal.

Liver, 50 oz., capsule thickened and studded with small flat oval masses of growth. In the middle of the left lobe was a cyst the walls of which were formed partly of liver substance partly of growth. The bile ducts were in places thickened but they were patent everywhere.

Kidneys, $9\frac{1}{2}$ oz., surface granular; capsule adherent; numerous cysts in right kidney. Secondary nodules of growth in both.

There were small nodules and patches thickly studded over

both parietal pleuræ and peritoneum. There were a few in the mesentery, and the mesenteric glands were enlarged and infiltrated.

Stomach normal—*Intestines* contained some tubercular ulcers.

Histology of growth—The tubular or alveolar arrangement of the growth was well marked. Near the surface the growth projected inwards in long tubular, often dendriform, masses of cells. About the centre the cell masses were often very large and branched and included in small rounded, oval or irregular alveoli. Here and there quite small collections of cells were found imbedded in the stroma between the larger masses just



Fig. 1.—Alveolar Sarcoma of the Pleura. $\times 80$. Masses of cells arranged in an irregular alveolar stroma.

as in glandular carcinoma. In the sections examined there was a clear line of demarcation between the pleura infiltrated with the growth and the lung infiltrated with tubercle and bronchopneumonia.

The cells of the growth consisted of a large nucleus with a small periplast; their outlines were not well defined, the nuclei varying from 7 to 12 μ . in diameter, being mostly round

or oval. The stroma consisted of well marked fibrous tissue in which was imbedded numerous spindle shaped, oval or rounded nuclei; many of the oval nuclei being large and delicate and recalling those of the endothelium of the lymphatics.



Fig. 2.—Alveolar Sarcoma of Pleura $\times 400$. Highly magnified mass of cells occupying a small alveolar space in a fibrous nucleated stroma.

Case II.—James Newey, 53, jeweller, was admitted on March 9th, 1886, complaining of shortness of breath and blood-spitting. The former began five months ago, but within the last month the sputa had become at first brownish and latterly bright red. A sister had died of phthisis. Twenty-five years ago he had an attack of acute rheumatism, and again six years since he had swelling of the joints of the right leg for which he was treated here. He had always suffered from palpitation of the heart, but this had been better during the last three or four years.

He attributed the commencement of his illness to a chill caught on a railway journey at night in August 1885, after which he suffered from a cough with thick expectoration, at first white, latterly brownish and finally bloody.

Present Condition.—He was a fairly well nourished and healthy looking man. The heart's apex was situated at the bottom of the sternum, where there was a loud *diastolic* murmur conducted up the right side of the sternum. The left side of the chest was absolutely dull with diminished breath and voice sounds throughout. Over the right side the breath sounds were exaggerated. On puncturing the left pleural cavity with a hypodermic needle *yellow* turbid fluid was obtained. On March 10th 105 oz. of bloodstained serum were drawn off by the aspirator. Under the microscope the fluid showed blood corpuscles and large round granular cells varying in size from twice to five times the size of a leucocyte. After the operation the percussion note became resonant over the upper two-thirds of the left lung, and vocal resonance and breath sounds were more distinct. The heart's apex receded to its normal position in the fifth left intercostal space. Well marked friction could be heard over the præcordia with respiration, but not anywhere else. There was much complaint of pain in the chest.

Progress of Case.—The friction had disappeared three days later, and the diastolic murmur had shifted with the apex beat to the fifth left interspace. On the 17th, nine days after admission he complained of a splashing noise in his chest; this was not new to him, as he had heard it a month or two before admission. It could not be heard on auscultation, but there were physical signs of pneumothorax (percussion clang) at the left apex. By the 23rd he had gone on so well that he had lost his cough and was not short of breath. He had been a little troubled by rheumatic pains in his shoulders and arms. He was discharged on April 1st; at that time the murmur at the apex was unchanged; the lower two-thirds of the left side of the chest were relatively but not absolutely dull; the signs of pneumothorax persisted above the left rib; vocal fremitus was diminished; breath sounds feeble. His temperature had remained normal throughout his stay. No doubt the effusion persisted, and when seen on June 29th all the signs of it were present. In the early part of July he was seized with faintness when out walking and had to lie

down for sometime by the roadside; the same night he was taken ill with pains in the back and sides.

He was readmitted on July 26th, and by this time had so far lost flesh as to be described as "poorly nourished." He complained of violent pain in the left side and back, made worse by coughing. The heart's apex was now pushed over to occupy the *right* fifth interspace within half an inch of the right nipple. The murmur was at this time described as being loud and rough and just following the *first* sound; the second sound being reduplicated. The signs of fluid effusion in the left pleura were most decided;—absolute dulness, with entire absence of breath and voice sounds, and vocal fremitus, except at the apex where there was faint tubular breathing. His temperature was 99°, pulse 108, and respirations 30. On August 30th, 130 oz. of dark brownish-red fluid were removed, containing blood corpuscles and large spheroidal cells undergoing fatty granular degeneration. He vomited after the operation, had a troublesome cough, and there were evident signs of air having entered the cavity. The heart's apex returned to the left side. On the 15th of August 15 oz. more were withdrawn. These operations did not appear to afford him any immediate relief. On September 1st a careful examination was made, and his left pleural cavity was found to be full of fluid, his heart's apex beating in the right fifth interspace. The *systolic* murmur was still audible, being loudest on the right 8th and 9th costal cartilages. At the apex of the left lung, in front above the fifth rib, and behind, above the spine of the scapula breath sounds could be feebly heard, respiration being bronchial in character above the second rib.

He was made an out-patient at his own request on Sept. 7th, but was readmitted on October 26th with hæmoptysis. The glands in the left groin and the left axilla were enlarged; in the latter situation the mass being one inch in diameter and irregularly rounded in shape. The liver, which had been normal before, reached now two inches below the costal border. He had become thin. On the 27th 30 oz. of reddish-brown fluid were drawn off, but it contained so much blood that it was not

thought advisable to take more away. He complained very much of pain in the left side which kept him awake at night, but was relieved by morphia. The hæmoptysis continued in moderate quantity, $1\frac{1}{2}$ oz. of red currant jelly-like viscid sputa. This gradually disappeared; he was able to get about, and was again discharged at his own request on November 18th.

He was finally readmitted on February 8th, 1887, with dyspnoea, dysphagia, and abdominal pain and swelling. On palpation there was nothing to be felt in the abdomen, but its wall was rigid, and the glands in the left groin were much enlarged. On percussion there was dulness on the left flank and below the umbilicus. On lying on his right side the left side became a little more resonant, and the right a little more so, but there was no absolute change.

The heart was on the right side, its impulse being visible in the 2nd, 3rd, 4th, and 5th interspaces, external to the vertical nipple line, the apex being in the 5th interspace $\frac{3}{4}$ in. external to this line. There was a loud *systolic* murmur at the apex, and the second sound at the base was loud and sharp, being louder during expiration. Over the right lung respiration was wavy, being interrupted by the heart's beat. The left side was dull throughout. The breath sounds were very faintly heard at the upper part only. There was constant pain on the left side, and slight cough with scanty gelatinous brownish mucous expectoration.

On the 10th his abdomen was tapped and 138oz. of yellow turbid fluid drained away. He continued in pain; his nights were very bad; he complained of a choking sensation as he dropped off to sleep which made him start up in bed; his left arm and legs began to swell, while his body was extremely emaciated.

He died February 26th, 1887.

Necropsy, Feb. 28th, 1888.—There was a quantity of turbid straw-coloured fluid in the peritoneum. The left half of the diaphragm was much pushed down. On opening the left pleural cavity some dark reddish-brown fluid streamed out, jetting to a

distance of six or eight inches from the chest. The cavity contained about 150 ounces. On the parietal pleura, especially at the apex and base of the cavity, were masses varying in size from a hen's egg to a small marble, of the consistency and colour of brain substances. These masses were only very slightly attached to the pleura, the majority falling off on being touched. On the diaphragmatic pleura were hard nodular masses. There were also several hard masses in the pericardium.

Left Lung.—This was entirely collapsed and lay close up to the spine; there were no growths noticed in its substance.

Right Lung.—A small quantity of clear fluid in the pleural cavity. On the surface of the lung were seen a few small whitish nodules about the size of a pin's head, and on the costal pleura were some white lines. On section it was found congested and oedematous, especially the lower lobe, and numerous nodules rather larger than a pin's head were scattered throughout its substance.

Heart.—There was a small quantity of clear fluid in the pericardium. The right side was filled with a dark clot, and a small partly decolourized clot passed into the pulmonary artery; the left side also contained some dark clots. Valves normal.

Liver, 5lb. 6oz., enlarged, and on the surface were several yellowish white nodules, varying in size from a pea to a shilling; the centres of the larger ones were depressed.

On section there were numerous similar masses, some of which showed reddish lines radiating from their centres. The masses were raised above the level of the liver tissue. The liver substance between the growths was hyperæmic.

Spleen 3 oz. This was firm and no growths in its substance.

Kidneys, R. 5 oz., L. 6½ oz., congested, cortices narrowed, capsules slightly adherent; at the apex of the right kidney, just beneath capsule, but going into the substance of the kidney was a white firm nodule about the size of a pea; there was also another smaller one.

The suprarenal bodies on section were studded with numerous yellowish white points.

The *Stomach* and nearly the whole of the small intestines were much contracted and on the surface of the mesentery were numerous small white hard nodules.

Brain 2 lb. 10 oz. Nothing abnormal noticed.

(*To be continued.*)

PERISCOPE.

THERAPEUTICS.

BY ROBERT SAUNDBY, M.D. EDIN., F.R.C.P. LOND.

The Treatment of Narcotic Poisoning.—Dr. G. A. Gibson (*Practitioner*, Dec. 1888) recommends the hypodermic injection of strychnine in the treatment of poisoning by opium, chloral, or by general anæsthetics, chloroform or ether.

He recommends removal of any of the poison that may be within reach by the stomach tube, emetics of mustard or zinc sulphate, or apomorphine hypodermically. A pint of black coffee should be given by the mouth or rectum, mustard leaves should be applied to the calves of the legs. The patient should not be walked about as this exhausts the vital centres. No alcohol should be administered.

Keeping the patient in the horizontal position, the respiration is to be carefully watched, and if there should be the least sign of irregularity or shallowness or inequality in the breathing, one-hundredth or one-fiftieth of a grain of strychnine, according to the age of the patient, should be administered sub-cutaneously, and may be repeated at intervals of an hour, two or three times.

If the breathing fails artificial respiration must be performed till it can be carried on by natural means or the heart has ceased to beat for half an hour. The use of these remedies may be supplemented by ammonia and ether.

If there is spasm of the arterioles nitrite of amyl must be had recourse to; but this should not be necessary if artificial respiration has been thoroughly performed.

Jumbul in Glycosuria.—Mr. George Ma'homed, of Bournemouth (*Practitioner*, December, 1888), records the case of a man, aged 60, apparently insane, suffering from glycosuria, without thirst, loss of weight, or polyuria. Under the use of Christy's two-grain jumbul *perles*, thrice daily, the sugar disappeared; on omitting the drug the sugar returned. The drug appeared to cause some depression, so the quantity was reduced to two *perles* daily. Under this treatment the glycosuria disappeared. The case, although hardly one of diabetes, is interesting on account of the alleged power of the drug to control the glycosuria.

Glycerine Injections in Diarrhœa.—Dr. George Rice (*Practitioner*, December, 1888), gives seven cases of acute diarrhœa and prolapse, apparently due to catarrhal enteritis, treated by glycerine injections. The dose was two drachms injected into the rectum. The remedy caused no pain or discomfort, while its beneficial action was prompt and complete.

Mountain Residences in Graves' Disease.—Stiller (*Contribt. f. Klin. Med.*, 1888. No. 34, p. 617.) recommends the trial of high altitudes in the treatment of this obstinate disease. He cites two cases, in both of which there was cardiac failure, in which great improvement followed temporary residence in the mountains.

Progressive Muscular Atrophy.—Dr. Michell Clarke (*Bristol Med.-Chir. Journal*, October, 1888), records a case of this disease with a syphilitic history in which treatment by arsenic and iodide of potassium in increasing doses effected a complete cure in four months.

Alum in Hæmaturia.—Dr. H. D. Didonea (*Journal of Amer. Med. Association*, 1888, No. 5) recommends alum in 20 gr. doses, dissolved in a goblet of water three times a day. The dilution is important.

Cobalto-Nitrite of Potassium.—Dr. Roosevelt (*N. Y. Med.*

Journal, August 25, 1888) recommends this drug in doses of half-a-grain every two to four hours in cases where it is desired to reduce arterial tension. He has seen it useful in uræmic dyspnoea and in emphysema.

Posture in the Treatment of Constipation.—Dr. E. T. Williams (*Boston Med. and Surg. Journal*, 1888, No. 8), draws attention to the unnatural position assumed by civilised humanity in the act of defæcation, and insists that much constipation could be overcome by resorting to the natural squatting position assumed by most animals, in which the propulsive action of the bowel is aided by all the muscles of the back and abdomen. He recommends the abolition of the seat from water-closets.

Nitrite of Ethyl.—Leech (*Medical Chronicle*, December 1888), recommends the employment of a 3 per cent solution of ethyl nitrite in absolute alcohol with 5 per cent. of glycerine, in half-drachm doses, for the treatment of diseases associated with spasm of arterioles or bronchi, and especially in all conditions of dyspnoea. He regards it as not a very trustworthy diuretic or diaphoretic.

MEDICINE AND GENERAL PATHOLOGY.

BY ROBERT SAUNDBY, M.D. EDIN., F.R.C.P. LOND.

Toxæmia after Enemata.—Dr. G. H. Burford (*Lancet*, Dec. 15th, 1888) reports eight cases of urticarial or erythematous rashes after enemata, which he attributes to the solution and endosmosis of poisons previously buried in the dry fæces.

Such rashes are not uncommon, but have hitherto been attributed to the *turpentine* employed in the enema. Dr. Burford does not say of what substances his enemata were composed.

The Absolute Signs of Death.—Dr. B. W. Richardson (*Lancet*, Dec. 15th, 1888) read a paper at the Medical Society on this subject, giving as the most trustworthy signs absence of filling of the veins when emptied and compressed on the cardiac side, coagulation of the blood, loss of galvanic muscular contractility, absence of red blush when ammonia is injected under the skin,

and want of red colour in semitransparent parts when strongly illuminated. He recommends the following practical procedure in doubtful cases. 1. Apply the fillet to the wrist and examine the veins at the back of the hand. 2. Open a vein at the bend of the elbow and seek for stringy coagula; open, if necessary, two or more veins. 3. Apply the electric test. 4. Inject ammonia hypodermically. 5. Examine by strong light for absence of red colour from the transparent tissues. 6. If any doubt still remain and rigor mortis has not developed, let the body be kept in a damp room at 84° F.; this would speedily bring about decomposition if the body were dead, and would favour restoration if life were not extinct. The last has this recommendation also, that it could be employed when it was forbidden to touch the body.

Remarks on certain Vaso-motor Neuroses.—Gibson. G. A. (*Edin. Med. Journal*, Dec., 1888.)—In a lecture on this subject Gibson ascribes migraine in many cases to reflex vaso-motor stimulation from some affection of eye, ear, or mouth, generally of the eye, such as astigmatism, and he alludes to a premonitory pain in the neck as evidence of some lesion of the cilio-spinal region.

He refers to the form of angina pectoris—"angina pectoris vasomotoria," in which the pain seems directly due to high arterial tension, and is relieved by drugs which antagonise the vaso-constrictor nerves.

He believes he has seen sudden pain and breathlessness, with muffled percussion sound and crepitation on breathing, which he attributes to local vaso-motor depression, as the symptoms all passed away in a few hours.

Similar transient conditions are met with in other organs—in the intestine, giving rise to diarrhoea; in the kidney, causing nervous polyuria, and sometimes albuminuria.

Finally he says, "in many patients we find several of the symptoms which have been described linked together. We may observe, for example, in a patient who has a troublesome ear affection, a severe attack of migraine, associated with patches of

erythema, and followed by polyuria. Or, in another case, there may be some error of the visual mechanism, causing pain over the cilio-spinal portion of the back, attended by local cedemas and a turgid abdomen, and ending in a free flow of fluid from the intestine. But in many cases several similar phenomena may exist together, apparently unconnected with any definite cause, such as, for instance, an affection of the spinal nerves. In many of these patients, whether male or female, there will be found painful spots on the vertebral column, and for all such cases the application of iodine, or a blister, or the actual cautery over the spine will be found beneficial, along with the continuous current from the medulla to the feet and hands, and the use of tonic remedies.

The Murmur of High-pressure in the Pulmonary Artery.—Steell, Graham. (*Medical Chronicle*, December, 1888).—The object of this paper is to suggest that the diastolic murmur heard to the left of the sternum in not a few cases of mitral stenosis, and which is commonly regarded as a diastolic mitral murmur, is really a pulmonary diastolic murmur caused by the yielding of the valves to the increased pressure in the pulmonic circulation. The paper contains no new facts, and makes no attempt to grapple with the obvious objection that there is no incompetence found *post mortem*. There is no analogy in the aorta for an incompetence which does not reveal itself after death, though the factor of high-pressure is often present.

Un Squelette d'Acromégalie.—Broca, A. (*Archives Générales de Médecine*, Dec., 1888.) Broca has described very minutely the skeleton of Marie's case 2. The following are the chief points determined. 1. In the bones of the trunk and limbs hypertrophy of their spongy parts with exaggeration of their porosity and enlargement of their nutritive foramina. The articular surfaces, surrounded by rough excrescences, shared slightly in these modifications. The points of insertion for tendons and ligaments were nearly all very prominent. The diaphyses were elongated, but not deformed, and their nutrient foramina were normal. The furrows marking the course of arteries

were very large (subclavian on the 1st rib ; intercostals on ribs.) 2. In the spine the bodies of the lumbar vertebræ showed a tendency to hypertrophy of their spongy parts, but in the dorsal region there was deformity caused by sinking in of the bodies causing scoliosis with kyphosis. 3. In the face, the apparent hypertrophy of the superior maxilla was found to be due to dilatation of its sinus. The frontal sinuses were also extremely dilated. The inferior maxilla was elongated and the anterior portion thickened and rough.

Partial Dislocation of the Lower Jaw from an enlarged Tongue. Chalk, W. O. (*Trans. of Path. Soc. of Lond.* 1857. Vol. viii., p. 305). Quoted by Broca, *Op. cit.*—Chalk has described as an example of partial dislocation of the jaw caused by an enlarged tongue, the case of a young woman with enlarged face and hands, swollen tongue, and protruding chin, which bears a certain resemblance to acromegaly. There was progression, mental enfeeblement, complete blindness, and epilepsy.

SURGERY.

BY GILBERT BARLING, F.R.C.S.

A Case of Tumour of the Cervical Region of the Spine.—Operation and death.—J. H. Lloyd, M.D., and J. B. Deaver, M.D. (*American Journal of Medical Sciences*, December, 1888). The patient, a woman aged 45, was admitted into the Philadelphia Hospital under the care of Dr. Lloyd ; for four months she had been losing power in the left leg and subsequently in the left arm ; there was no history of tubercle, alcoholism, or syphilis. When first seen, the left arm was paretic and slightly wasted, the leg paralysed and slightly spastic, and giving well marked ankle clonus, and rectus clonus ; both patellar reflexes were exaggerated. There was also slight ankle clonus on the right side. Sensibility was not altered on either side, nor was there any paralysis of facial, ocular, or lingual muscles. The pupillary reflexes were normal, but there was slight retinitis in each eye. A marked swelling existed on the back of the neck,

to the left side of the spine, at the level of the third cervical vertebra, and the patient complained of stiffness of the neck and of pain on moving the parts.

The tumour was considered to be probably a growth from the inside of the spinal canal, extending outwards and compressing a limited area of the left lateral tract. For the relief of this it was decided to operate. The part having been most thoroughly cleansed, an incision was made in the middle line and the soft parts reflected from the spines and laminæ of the 3rd and 4th cervical vertebræ. The spines, and subsequently the laminæ, were removed with bone forceps, when the bone was found to be in a condition of chronic osteitis and osteo-myelitis, especially on the left side. Upon the removal of the laminæ from the dura, to which they were adherent, it was noted that the membrane did not rise up into the wound; it was opaque, quite resisting to the sense of touch, and appeared thickened. It was *explored by a needle* with a negative result. When this puncturing was performed the respiration became deep, almost gasping, with prolonged intervals. A rubber drain was placed in the wound, which was carefully dressed antiseptically. There was no relief to the paralysis. The patient survived nearly four days, and died it is believed from interference with her phrenic centre, as her respiration became of the peculiar kind noticed at the operation.

The *post mortem* showed that the wound was aseptic and that there was no change in the tissues of the brain or its membranes. On slitting up the dura there was observed on the anterior aspect of the cord, at the level of the second cervical nerves, a slight prominence on the left side about the size of a wheat grain. Subsequent microscopic examination showed that there had been a hæmorrhage with inflammation around, which had extended somewhat above and below the prominence referred to, and which involved almost exclusively the left side of the cord, damaging most the grey matter and the lateral column. Dr. Deaver, who was responsible for the operative measures, attributes death to interference with the phrenic centre by the

use of the exploring needle; but he states that in future in this region he would prefer to lay open the dura mater as a less dangerous procedure. It is not at all clear with what purpose the needle was used or what information could be gained by its use.

Extensive Thoracotomy for Sarcoma of the Chest-wall with Adhesions to the Lung.—By Roswell Park, M.D. (*Annals of Surgery*, Oct., 1888.) The patient was a male, aged 33, from whom a sarcoma of the leg had been excised some eighteen months previously, and as it returned, the limb was removed at the knee joint, the growth being then examined and made out to be a small round cell sarcoma. When the thoracic growth was first seen it was the size of a hen's egg, a little above and to the outer side of the left nipple; it was fast, tender, with movable skin over it, involving the whole thickness of the wall apparently and not infecting glands. The general condition was good, and careful examination failed to indicate any affection of the lungs. Ether having been administered, the skin was reflected by a crucial incision, and in endeavouring to separate the periosteum on the inner side of the ribs the pleura was lacerated. The cavity was therefore freely opened, and portions of the fourth, fifth, sixth and seventh ribs removed together with adhesions connecting the tumour with the lung. The portion of the chest-wall removed measured 5 in. by 3½ in., and a hasty examination of the lung revealed numerous nodules in the organ and on its surface. During the operation the respiration was but slightly disturbed, but the pulse failed and had to be stimulated. Hæmorrhage was slight. The wound was closed completely, and when the patient was put to bed his pulse was 140, respiration 30, the face slightly cyanosed. Death took place six days later, the dressing not having been changed. The lung seemed in the first few days to undergo considerable inflation, the highest temperature was 101° F., the respirations varied from 30 to 50 and the pulse from 130 to 170.

P.M.—The cavity of the left pleura was found full of odourless

bloody serum, and the lung soft and easily torn. Both lungs were found studded with sarcomatous nodules. Looking to the facts, of the speedy recurrence of the primary tumour after removal, and of the thoracic growth being a secondary formation, this appears to have been a very unfortunate case to select for an operation which is in the earliest days of its trial, as the probability of other secondary tumours was great. A useful lesson appears to be given by the condition of the distended pleural cavity. Free drainage of the fluid collected here with careful asepsis might have led to a more fortunate result.

GYNÆCOLOGY.

BY LAWSON TAIT, F.R.C.S.

On Leukæmia complicating Pregnancy.—Sänger, of Leipsic, in the second volume of the *Archiv. für Gynäkologie*, 1888, contributes an interesting paper on this subject. Having called attention to the unsatisfactory nature of the older and most of the more recent records, and the necessity of reinvestigating the whole question from the point of view of the Gynæcologist, he gives a case of his own, one by Cameron of Montreal, and others by Paterson, Ingle and Greene.

The following is an abbreviated account of Sänger's and of Cameron's cases, which appear to have been most carefully recorded:—

Sänger's was that of an unmarried woman æt. 32, who came to him on July 6th, 1887. Early in May she had noticed a gradual increase in the size of her abdomen, accompanied by stabbing pains in the left hypochondrium, an increasing feeling of weariness, and cessation of menstruation since the end of the preceding April. She was above medium height, powerfully built, thin and pale. Hypogastric region prominent. Spleen considerably enlarged. Liver not enlarged. There was very marked increase of white blood corpuscles, one of white to fifteen red; no distinct enlargement of lymphatic glands.

The case was one of pregnancy in the second to third month combined with splenic leukæmia. She came of a healthy family with no history of leukæmia ; had never suffered from malarial fever. Treatment, arsenic and iron.

The patient was not seen again by him until December 6th, 1887, when her sufferings had become unbearable. The abdomen was greatly distended, the spleen tumour not very markedly increased in size. Labour was induced. Breech presentation ; a healthy, well-formed female child was born.

The hæmorrhage during and after labour was very slight. The blood did not coagulate well and was of a bright red colour, reminding one of C O blood.

The abdomen was not much less in circumference than before delivery. The spleen could now be very distinctly palpated and had increased only to a slight extent during the last months of pregnancy. The child showed no enlargement of liver or spleen.

The placental blood was leukæmic, but the blood taken from the placental end of the umbilical cord was in every respect perfectly normal.

The lying-in period passed off in a perfectly ordinary manner. The lochia presented nothing uncommon. The child was not suckled.

In March, 1888, her condition was as follows :—"The spleen continues to enlarge so that her abdomen presented the appearance of a seventh month pregnancy. Otherwise she keeps pretty well, had a good appetite and could do light house-work, although her aspect is that of leukæmic marasmus. The number of white corpuscles in her blood continued to increase and were estimated at 1 to every 10 red. The child continues perfectly healthy, hand-fed, and its blood is quite normal." In the following May the condition of mother and child was about the same.

In Cameron's case the patient, aged 35, married 13 years, with five children, first noticed a splenic tumour in 1884, at the commencement of her sixth pregnancy. She was treated for leukæmia in the Montreal Hospital in September, 1885, when her sixth child was three months old.

She had never suffered from malaria, but several times from jaundice, diarrhoea, and epistaxis. She had suckled her last child until a short time previous to her admission. She had all the appearances and symptoms of a leukæmic patient with some elevation of temperature (103° F.). The splenic tumour reached from the sixth rib obliquely downwards to the umbilicus, and backwards to the posterior axillary line. The area of liver dulness was increased; but there was no enlargement of lymphatic glands. White corpuscles 1 to 40 of red. She then improved, and left the hospital in November, 1885.

In April, 1886, she was readmitted for a month. In October she came back again in the seventh month of pregnancy. For a week previously she had suffered from headache and giddiness; her face and feet were œdematous. Epistaxis and dyspnoea; albuminuria. The spleen had increased in size. There was 1 white corpuscle to 10 red. All the symptoms were aggravated until the completion of labour. The labour lasted three hours; not a drop of blood was seen to be lost; also no hæmorrhage on expulsion of the placenta. Twelve days later the patient was able to be discharged. The child (female) weighed $4\frac{1}{2}$ lbs., was apparently healthy and took well to a wet nurse. The following day the mother secretly put it to her own breast, when it at once got ill, became purpuric in a few hours, and died on the fourth day.

The blood of the mother and child was examined two hours after labour with the following result:—Mother's blood, 1 white to 4 red; child's, 1 white to 175 red. On the twelfth day the mother's blood contained 1 white to 50 red.

On *post mortem* examination of the child, the spleen was found not enlarged, nor were any other blood glands enlarged.

It is interesting to note here that while the blood in the placental vein contained one white to about every 150 red corpuscles, in the placental arteries the relation was 1 to 270; thus the blood lost red corpuscles on its way through the placenta.

In April, 1887, this patient got pregnant again, all the leukæmic symptoms becoming aggravated as before. She was under observation at the time Cameron published his paper.

From these and other cases Sanger draws the conclusion, that the simultaneous occurrence of leukæmia with pregnancy is undoubtedly very rare, even taking into consideration the fact that leukæmia is among the rare diseases.

Certainly leukæmia would have more often been noticed during pregnancy and the lying-in period if it were of frequent occurrence.

For, leaving out the doubtful cases of older and of more recent literature, Sanger holds that there are only three cases proven, viz., those of Cameron, Greene and his own.

He also concludes from these cases that the presence of leukæmia does not abrogate, although it may diminish the aptitude for conceiving; since repeated conceptions have occurred in leukæmic patients. That menstruation becomes scanty, or altogether ceases, much as it does in other dyscrasic states of the blood, such as anæmia, chlorosis, tuberculosis, &c.; in other words, that disturbances of menstruation and pregnancy, if not quite independent of leukæmia, are secondary to it.

Induction of premature labour is recommended as perfectly justifiable, and indicated when the suffering is very great. The production of abortion is less justifiable and only required in some very severe cases.

There were, as a rule, no difficulties during labour in these cases, and the placenta was expelled readily and with remarkably little hæmorrhage.

With the exception of one case of Greene's, the recovery after labour was startlingly rapid. Here an important difference is noticeable between "Pernicious Anæmia" and leukæmia in pregnant women. In leukæmia, great improvement in the condition of the patient after delivery is the rule; in Pernicious Anæmia, on the contrary, the patient rapidly gets worse.

REPORTS OF SOCIETIES.

BRITISH MEDICAL ASSOCIATION.

BIRMINGHAM AND MIDLAND COUNTIES BRANCH.

The third General Meeting was held in the Medical Institute on Thursday, December 13th; the President, Dr. T. W. THURSFIELD, in the Chair.

The following members of the Association were elected members of the Branch:—Messrs. R. H. Foster, Knowle; F. G. Gardner, Stourbridge; H. C. Crew, Wednesbury; and C. W. Biden, Wednesbury.

Pirogoff's Amputation.—Mr. Haslam showed a man aged 43, whose foot he had removed fourteen months ago by Pirogoff's amputation, for a myeloid sarcoma of the metatarsal bone of the great toe. The patient is now able, with the aid of a suitable boot, to walk about in comfort; and no inconvenience whatever is felt from length of the limb being greater than it would have been if Syme's method had been adopted.

Epilepsy.—Mr. Jordan Lloyd showed a man whom he had trephined for epilepsy.

Brain Abscess.—Mr. Barling showed for Mr. Elkington a specimen of brain abscess secondary to middle ear suppuration. The patient had been trephined, but only an acute cerebritis found. The symptoms, however, were relieved. Subsequently other symptoms arose, and the boy died some two months after the trephining, when an abscess was found involving the superior temporo-sphenoidal and the supra-marginal convolutions.

Brain Gumma.—Mr. Barling also showed a gumma involving the left pre-frontal region, mainly at the anterior part. The symptoms were slow and hesitating speech, slow mental processes, and paresis of the right extremities. No lesion was discovered in the left motor area to account for the paresis, but there were several patches on the convexity and base, where the dura was adherent to the pia. The patient died of pneumonia.

Epiphora.—Mr. Vose Solomon exhibited a large lachrymal gland which he had removed from a lady aged 50, who suffered so severely from nervous shock, induced by the treatment of her epiphora by dilatation as to render discontinuance of the plan absolutely necessary. He strongly advised a resort to excision of the gland in all similar cases. He believed his case was a new departure in relation to nervous symptoms of severe type.

Bone-grafting.—Mr. Bennett May exhibited two patients whom he had recently trephined for compound fracture of the skull. In one of them he had, after the manner practised by McEwen, re-implanted the bone with most satisfactory result. The bone at the seat of injury was as firm and solid as any other part of the skull. In the other patient, although brain matter and cerebro-spinal fluid were scattered about the hair and face, recovery was rapid and complete. Mr. May alluded to some of the recent improvements in these operations, and to the enormous value of antiseptic surgery in this region.

Cranio-cerebral Topography.—Prof. Windle gave a short account of Symington and Cunningham's recent work in connection with the growth of the brain after birth, and with cranio-cerebral topography. He exhibited some of Prof. Cunningham's and other models.

Surgery of the Brain.—Mr. Jordan Lloyd read a paper on the present position of the surgery of the brain, the discussion upon which was postponed till the January meeting. [We hope to be able to present a report of this paper to our readers in our next issue.]

MIDLAND MEDICAL SOCIETY.

December 12th, 1888, Hugh Ker, F.R.C.S., President, in the Chair.

Ankylosis of Hip, Osteotomy.—Mr. Barling showed a case of osteotomy for faulty ankylosis of hip. The patient, a boy, suffered from hip joint disease seven years ago, the result being bony ankylosis of the hip, with the femur at an angle of about

60° with the body. The neck of the bone, though greatly thickened, appeared to be hardly at all shortened, so the division was made through it by means of an osteotome. No difficulty was found in this as the bone was fairly soft, and subsequently the tensor fasciæ femoris was divided before the femur could be brought down almost to complete extension. There was no constitutional disturbance afterwards, and the limb was firmly ankylosed in the new position in six weeks. There is now one inch and a quarter shortening and the limb is still somewhat flexed, but the patient's condition is very much improved, as he can walk about comfortably without the aid of a stick, whereas he used generally to have the support of crutches.

Carcinoma of Pancreas.—Dr. Suckling read notes and showed specimen from a case of carcinoma of the pancreas diagnosed during life. A man aged 33, a labourer, was admitted into the Workhouse Infirmary on June 25th of this year complaining of backache. This was relieved by a belladonna plaster, and the patient was discharged on July 2nd. On the 19th he was readmitted with deep jaundice; the gall bladder could be distinctly felt, and a hypodermic needle was passed into it, a syringe of dark-coloured bile being withdrawn. Shortly after, the patient complained of severe pain in the region of the gall bladder and was very faint, these symptoms passing off in a few hours. The stools were ash-coloured but were not apparently oily. The urine contained sugar, its sp. gr. being only 1022, and throughout the illness there were none of the ordinary symptoms complained of in diabetes. The jaundice gradually deepened until the patient was of a dark green colour, especially in the face.

He rapidly emaciated, in two months losing a stone in weight. Pain was a prominent symptom throughout (morphia being freely administered); it was felt especially in the back but also all across the upper part of the abdomen. The liver was small throughout and no tumour could be at any time felt, though there was decidedly more resistance over the upper portion of the right rectus muscle than elsewhere.

Dr. Suckling emphasised the diagnostic features of the case, namely, (1) the presence of deep persistent jaundice with distension of the gall bladder ; (2) the presence of sugar in the urine ; (3) the absence of any enlargement of the liver ; (4) the progressive emaciation and rapid course of the disease, death occurring within five months of the onset of the pain in the back. The carcinomatous growth implicated the head of the pancreas only ; the pancreatic duct was dilated and contained a large calculus. There were no secondary growths. Throughout the case there were no dyspeptic symptoms and no vomiting, the duodenum not being at all obstructed. The severe pain was probably due to the existence of the calculus. Another interesting feature in the case was that the patient's mother and sister suffered from diabetes.

Pseudo-hypertrophic Paralysis in a Woman.—Dr. Suckling showed a woman, aged 37, suffering from pseudo-hypertrophic paralysis. She had been under his care three years, and during that time no alteration in condition had occurred. There was no family history of this or any other nervous complaint. She noticed weakness in her back 13 years ago, this gradually extending to the arms and legs, and being the only complaint. She had also noticed enlargement of the limbs. The gait was waddling, and she could easily be upset. In the erect position there was very marked lordosis. She rose from the ground and from the sitting position in the manner characteristic of the complaint. The calf muscles were much enlarged and rigid ; the buttock muscles and the forearms were also much enlarged, all the limbs being apparently well developed. There was great weakness, the patient not being able to hold the upper extremity horizontally for more than a few seconds. The knee jerk was lost on both sides.

Removal of Shaft of Fibula.—Mr. Augustus Clay exhibited a boy aged 10, from whom he had removed the whole of the shaft of the fibula on the left side, and upon whom he had performed amputation through the condyles of the femur on the right side. Six of the patient's sisters died young, either from croup or

bronchitis; he himself had always been delicate and underfed. Three weeks before admission he was attacked with high fever and grave constitutional disturbance, and complained of pains in his legs, and "could not bear the bed clothes to touch him." There was no history of injury, nor was there any wound. When admitted he was fearfully emaciated and had bed sores. Profusely discharging sinuses were seen in the neighbourhood of the knee and ankle joints on either side, and the lower epiphyses of the right tibia and fibula were entirely separated and the ankle joint opened. On the left side the diaphysis of the fibula was quite separate from its epiphyses, which were quite healthy: The lower epiphysis of the right fibula contained a mass of necrotic caries. Both shafts of the tibia and fibula presented the usual signs of acute necrosis. The fibular wound healed primarily except where drainage tubes were inserted, and three months later there was distinct thickening, as though the bone would be reproduced from the periosteum and the epiphysis which remained.

Renal Calculus.—Mr. Jordan Lloyd showed a uric acid calculus successfully removed from the kidney of a young man.

Mr. Taylor read a paper on "The relation of dress to certain diseases of women."

REVIEWS.

A TEXT BOOK OF PHYSIOLOGY.*

THE first thing that one is struck with on taking up this volume is the elegant style in which it is got up. The paper and type are distinctly superior to those ordinarily used in text books of science, and the histological illustrations (by Dr. Stöhr) are particularly beautiful, being "not diagrams, but drawings of

* *A Text Book of Physiology.* By John Gray M'Kendrick, M.D., LL.D., F.R.S., Professor of the Institutes of Medicine in the University of Glasgow, &c. Including Histology, by Philipp Stöhr, M.D., of the University of Würzburg. Vol. I., General Physiology. Glasgow: Maclehose and Sons.

real preparations." All parts of the book are freely illustrated with woodcuts, mostly of good quality and design ; some of them being original, and valuable in the elucidation of certain difficult points.

The scope of the work is very extensive. In this first volume the author gives *the Chemistry of the Body, the Physiology of the Tissues, and the Contractile Tissues*. There is also an introductory section on such subjects as *Matter and Energy, Evolutional History of Living Beings, and Theories of Life*. One is almost inclined to think that too many subjects are included, and that some of them can only be properly dealt with in special works : it is only necessary to instance *the structure of microscopes and the methods of histological preparation*. To many readers, however, especially practitioners who have laid aside the active study of physiology, this cyclopædic information will prove distinctly useful ; and the biologist to whom physiology is only a secondary subject will find here a philosophical view of the bearing of this science on his own subject.

The portion of the chemical section relating to pigments has been prepared with the assistance of Dr. McMunn, who has supplied a coloured chart of the most important spectra. The name of this first authority on pigments is a sufficient guarantee for the quality of this part.

There are things in the chemical section to which exception must be taken. The author speaks of "*sulphocyanides*," a term which has long been discountenanced, and which frustrates the attempts of the student to systematize organic chemistry. Again, he states unhesitatingly that urea is "a carbamide ;" whereas its reactions are not those of an amide. It would have been better to indicate that although isomeric with carbamide, it may have a different internal structure. Some difficult theoretical problems are plainly and concisely dealt with ; such as the question of the structure of uric acid, albeit in this case the assumption that urea is carbamide still passes unquestioned. Good drawings are given of the most characteristic crystals.

The Histological Section contains a synopsis of Embryology,

including a notice of Strasburger's and Weismann's theories, on the latter of which the author gives views of his own which are at variance with those of the majority of morphologists. The chief value of the section lies in the fine microscopical drawings already mentioned.

The last section of the volume—on the Contractile Tissues—gives a large and almost unnecessary amount of description of apparatus and methods of experiment, which things should be studied in the laboratory and not in books. Many points, however, are simply and distinctly explained. We would call attention to a statement on page 499 :—"One can conceive a muscle so loaded that at the moment of contraction no change in its length could take place, because the energy tending to shorten the muscle, that is its contractile power, would be exactly equal to the energy tending to lengthen it against its elastic force." The author must have been nodding when he wrote "energy;" he is surely aware that what he here describes is *force* only. Following the description of contractile tissues proper is an account of the electrical organs in fishes, their structure and phenomena.

In conclusion we may say that the book is easy reading—in some parts almost light reading—and that many who are unable to cope with the more abstruse problems of physiology will find in this work an introduction to the more tangible side of the science.

THE TREATMENT OF HÆMORRHOIDS.*

THE writer of this little book is an enthusiastic advocate for the treatment of piles by injecting them, to the exclusion practically of all other methods. The advantages claimed for the plan are

* The Treatment of Hæmorrhoids by Injections of Carbolic Acid and other substances. By Silas T. Yount, M.D. Lafayette, Indiana, U.S.A.

that no anæsthetic is needed for the operation, no pain or discomfort follows it, no time is lost by confinement to bed, there is absolutely no danger of blood poisoning or sloughing, and there is no danger of cicatricial stricture subsequently. This is the statement of the case in the Introduction; but to ensure complete success, great stress is laid on the necessity of using a "weak solution of carbolic acid, about five per cent."

The first six chapters are devoted to the method of examination of the rectum, the pathology of hæmorrhoids, and palliative treatment, etc., and hardly call for special notice further than this, that Dr. Yount states emphatically—"External hæmorrhoids cannot be cured by injections of carbolic acid. Injections into them will invariably inflame them and do positive harm." The seventh chapter gives details of the little operation and of a few cases. The risk of using too strong a solution is put forcibly forwards (p. 69). "If too strong a solution be used it will be far from a painless operation, and there is also much danger from sloughing, abscesses, embolism, hæmorrhage and confinement to the bed for weeks or even months. If I had to be treated for hæmorrhoids and had the choice of either the ligature or strong injections of carbolic acid, I would take the ligature first, last and all the time." Several drops of the five per cent. solution may be injected into one pile, care being taken that it is carried well into its base by the point of the needle, and the advice is given to never inject more than one large pile or two small ones at one sitting and to very carefully return them if they are prolapsed. It is worth noticing in the few cases reported that most of the patients suffered from some casualty, most commonly from sloughing; once a pile prolapsed and had to be slit up, the patient being confined to bed for some days; in another instance there was a good deal of oozing from the puncture for a day, and in several cases the treatment extended over weeks or months. The frequency of the injections should not be greater than once in two or three weeks.

In the General Remarks of the 8th chapter the injection of piles when inflamed is condemned. One very curious statement is made in this chapter, "Recurring attacks of diarrhœa and hæmorrhage indicate *rodent ulcer*." If the term is used as we use it in England, surely there must be some mistake. Rodent ulcer is extremely rare in this country, and we believe always extends from the skin surface.

Other solutions recommended for injection are very dilute acetic acid and liq. ergotæ purificatus.

It seems probable that the injection of carbolic acid will take a place among the methods now used in the treatment of hæmorrhoids, but that it will not replace them. Its greatest value will be in those cases where rest in bed cannot be insisted on, in such nervous people as will not submit to any formal operation, and in some cases of general disease in which a palliative is desired to check the loss of blood from hæmorrhoids when ligaturing or clamp and cautery are considered undesirable.

Messrs. Burroughs, Wellcome and Co., having a large stock of their "Medical Diaries, 1889," still on hand, have decided to reduce the price from 4s. to 2s. each.

Miscellany.

A PERPLEXINGLY UNCERTAIN FEE.

Dr. Benjamin J. Baldwin, of Montgomery, Ala., tells the following story:—There came to consult me a man from the "Piny Woods." He was plain, honest, candid, and rural. A jeans coat, homespun hickory-shirt, red-copperas breeches, and long straggling hair constituted his make-up. He entered without ceremony, and made known his wants at once.

"Doc, I'se hearn tell that you fix people's years," he said.

I remarked that I confined my practice to the eye, ear, and throat.

"Well," said he, "I've been er getting deefer an' deefer for now guine on fore year, and I hearn that broth' Josiah Sykes had his years fixed up by you, and I come all the way from Pike to see ye."

I asked him to sit down, and said that I would examine him, and tell him what I could do. Upon examination I found both ears tightly packed with

wax. I told him I thought I could relieve him, and after saturating the wax with sweet oil the evacuation and dislodgement began. An enormous amount of wax was gotten off each ear.

The old fellow saw it, and to him it was incredible.

"Doc, you didn't git all that thar corription outen my head, did ye?" I replied that I did.

"Well, by grannie, if you don't lay o'er anything I ever seen in Pike, I gin it up."

After such an effusive compliment of course, I felt better. *It had been a great operation.*

"Now, Doc, how much is ye guine to tax me?" he said.

"Oh, I hardly know what to charge you," I replied, seeing he was very limited in means.

"Well, doc, if I had a thousand dollars I'd make ye rich. I ain't got much, but I'll do my bess."

"Never mind about that, it's all right; you can pay me some other time."

"No, doc, I must pay ye. *Here's a dollar, but touch her light, I've got to git back home on the train.*"

The fare was sixty-five cents!

N.Y. Med. Record.

A CURIOUS WAY TO ADVERTISE AN OBSTETRICIAN.—The following curious items appeared in the *Cincinnati Enquirer*, under the head of Births:—

"FLAMIN.—Saturday, the 9th inst., at 8.15 A.M., to the wife of D. W. FLAMIN, of College Hill, a ten-pound boy. Thanks to Dr. Wallingford, of Cincinnati.

"GALLION.—June 5th, to Mrs. NONA GALLION, of Liberty Street, a nine-pound girl. Thanks to Dr. Wallingford."

One would suppose that Messrs. Flamin and Gallion would claim some thanks.

New Books, etc., Received.

On the Surgery of the Knee-joint. By C. B. Keetley, F.R.C.S. London: Baillière, Tindall and Cox.

Select Methods in the Administration of Nitrous Oxide and Ether. By Frederic Hewitt, M.A., M.D., Cantab. London: Baillière, Tindall and Cox.

The Treatment of Hæmorrhoids. By Silas T. Yount, M.D. 2nd edition. Indiana: Lafayette. 1888.

De l'Hystérie Pulmonaire. Par le Dr. Léon-Petit. Paris: O. Doin. 1888.

Sketches of Hospital Life. By Honnor Martin. London: Sampson Low, Marston, Searle and Rivington. Lim. 1888.

The Eye of the Adult Imbecile. By Charles A. Oliver, M.D. Philadelphia, Pa.: Reprinted from the Transactions of the American Ophthalmological Society. 1887.

Illustrated Lectures on Ambulance Work. By R. Lawton Roberts, M.D. 3rd edition. London: H. K. Lewis. 1888.

Lectures to Practitioners on the Diseases of the Kidney Amenable to Surgical Treatment. By David Newman, M.D., Surgeon to the Western Infirmary, Glasgow, etc. London: Longmans, Green and Co. 1888.

NOTICE.—All Communications to be addressed to the Publishers, Messrs. Hall and English, 71, High Street, Birmingham.

THE
BIRMINGHAM MEDICAL REVIEW.

FEBRUARY, 1889.

ORIGINAL COMMUNICATIONS.

PRACTICAL OBSERVATIONS ON CEREBRAL
SURGERY.

WITH NOTES OF CASES.

BY JORDAN LLOYD, M.B., F.R.C.S.,
SURGEON TO THE QUEEN'S AND TO THE CHILDREN'S HOSPITALS,
BIRMINGHAM.

So far as I am aware no paper has been read before this Branch on the Surgery of the Brain, although the subject has actively engaged the attention of physicians and surgeons since the year 1883. Great advances have been made during these few years, many brilliant successes achieved, and much useful knowledge gained. It was with the object chiefly of laying before you the present position of brain surgery that this paper was begun, but as the time allowed by the rules of your Society is scarcely enough to enable me to refer to my own cases, I am compelled to modify my original plans.

Modern cerebral surgery is undoubtedly the direct outcome of the localisation of cerebral functions which we owe to the experimental observations of Hitzig, Ferrier, and others. Without such experiments we should probably still have regarded the brain as acting as a whole, and should not have assigned to a particular part any particular function. The surface of the brain most concerns the surgeon, because it is the region which is accessible to operation, and it is to the anatomy and physiology of this part therefore that I must beg to be allowed briefly to call attention.

(Diagrams were here shewn and described to illustrate the relative positions of the more important lobes, fissures, and convolutions, and also of those motor areas whose localisation has either been confirmed or originally discovered by observations on man.)

The intra-cranial conditions towards which surgery holds out some prospect of relief are by no means rare. It appears justifiable to open the skull (certainly as an exploratory measure) for those cases which indicate sufficiently clearly by symptoms, a progressing pressure, as from a tumour, an abscess, an intra- or extra-cranial blood clot; or that a continued irritative effect—such as results from cicatrices, gummatous residua or the like—is present, and is not relieved by the ordinary means of treatment. Whether this list will be extended or curtailed experience only can show. I am not sure whether in this—as in many other surgical departures—the thing is not being slightly overdone even at the present time. It is not yet possible to speak of permanent results in the majority of cases which have been submitted to trephining, but the best will be seen, I think, after operations for abscesses and extra-cerebral blood clots.

Successful operations depend here more than in any other part of the body upon accurate diagnosis. At the present time the diagnosis of cerebral diseases—other than the traumatic—lies solely with the physician; but inasmuch as the responsibility of an operation—at least in the eyes of the laity—rests chiefly on the head of the individual who performs it, a surgeon ought to be able with the salient features of a case clearly before him, to appreciate exactly the probable nature of the condition he is asked to treat, for no one can do justice to a case under his hands if he merely mechanically, as it were, carries out the wishes of someone else. The surgeon who treats abdominal diseases is certainly expected to know something of their diagnosis, and his patients would fare badly if he did not.

It would be out of place for me in this paper to discuss the general symptoms of intra-cranial growths, but I may remark that the symptomal trinity formulated by Dr. Hughlings Jackson,

nearly twenty years ago, of headache, vomiting, and double optic neuritis may still be relied on, as evidence of coarse intra-cranial disease.

With regard also to the *localisation of intra-cranial lesions* I shall say but little. Our forefathers localised disorders inaccessible at the base of the brain by symptoms of disturbance in the functions of cranial nerves; but we, in addition, can localise disorders accessible on the brain's surface by symptoms of disturbance in the functions of the various cortical areas, some of which are sensory and others motor.

First with regard to lesions in the motor zone, which manifest their presence either by irritative symptoms, expressed as local spasm or convulsion, or by destructive symptoms, expressed as paresis or paralysis. The following facts have been established from observations on man :—

Lesions of the caudal extremity of the third frontal gyrus (on the left side in dextrous persons) produce affections of speech (motor aphasia).

Lesions of the basal ends of the pre- and post-central gyri affect the opposite half of the tongue.

Lesions of the caudal extremity of the second frontal gyrus affect the facial muscles of the opposite side.

Lesions of the lower middle third of the pre-central gyrus affect the opposite thumb and fingers (and whole hand and forearm occasionally).

Lesions of the upper middle third of the pre-central gyrus (and perhaps of the post-central also) affect the upper arm and shoulder.

Lesions of the upper third or top of the pre- and post-central gyri and of the para-central lobule affect the thigh, leg, or foot.

Lesions of the sensory areas manifest their presence almost exclusively by the so-called destructive symptoms, thus :—

Lesions affecting the left superior temporal gyrus give verbal deafness.

Lesions in the white substance of the occipital lobe give increasing hemianæsthesia with lateral hemianopsia (dark half fields on same side as lesion).

Lesions of the cuneus give lateral hemianopsia on opposite side to tumour.

Lesions of the angular and supra-marginal gyri give rise to word blindness (Dr. Allen Starr) and probably to psychical blindness also (Macewen).

Cranio-cerebral topography, or the relation of the parts within the skull to external landmarks has been satisfactorily worked out; at least for the purposes of the operating surgeon. It is quite easy now to mark with sufficient accuracy any of those parts within the skull which are accessible to operation. Several methods have been advocated, in some of which fissures and gyri are said to be localised with decimal exactness, but inasmuch as a one inch trephine opening dispenses with the necessity for decimal requirements, such methods are bewildering and superfluous. The external landmarks, with which we must be familiar are about four in number, viz.: the occipital protuberance, the mastoid process, the external angular process of the frontal bone, the parietal eminence, and the glabella or hollow at the root of the nose. There is no difficulty in finding some of these structures, but the parietal eminence is usually obscure, and the occipital protuberance may sometimes be mistaken. The former lies about one inch above the posterior bend of the temporal ridge—which may be felt at the upper edge of the temporal muscle—and the latter may always be recognised where the soft parts of the neck join the skull.

Aided by these landmarks, I have found the following system sufficiently reliable for practical purposes:—

1. A curved line-convexity upwards from the occipital protuberance to the base of mastoid follows the course of the *lateral sinus*; above it lies the cerebrum (occipital lobe) and below it the cerebellum may be exposed.

2. A direct line between the occipital protuberance and the external angular process of the frontal bone marks the *lowest level of the cerebrum*.

3. A line between a point one and a quarter inches behind the external angular process of the frontal bone, and three quarters

of an inch below the parietal eminence, lies over the *horizontal arm of the Sylvian fissure*, and a short line drawn upwards at right angle, one inch from the anterior extremity of the fissure, marks the *vertical arm*, just in front of which, Broca's convolution may be exposed. The *supra-marginal gyrus* is at the upper end of the Sylvian fissure and the *angular gyrus* about one inch below and behind this point.

4. A line passing over the top of the head between the glabella and the occipital protuberance lies over the great longitudinal fissure, and half an inch behind its centre is found the upper end of the *fissure of Rolando*, which runs downwards and forwards for some three and a half inches at an angle of 67° , a little more than two thirds of a right angle. This line runs in a direction towards a point half an inch in front of the auditory meatus. Most of the motor areas being gathered about this sulcus, their position can easily be determined when once the fissure is carefully marked out.

Operative Treatment.—On the previous day the head must be shaved, scrubbed with soap and water, then thoroughly cleansed with turpentine and washed again with soap and water. After drying, the site of the tumour should be accurately marked out with aniline pencil, and the scalp afterwards kept covered with a cloth soaked in perchloride lotion.

At the time of operation *absolute cleanliness* must be observed, for upon this more than anything else the life of your patient depends; and in general hospital practice cleanliness can doubtless still be best secured by a rigid adherence to Listerism. Most of my own cases have been done without it, but only by my exercising the strictest personal control over everything used during and after the operation.

The most suitable anæsthetic is chloroform, administered about a quarter of an hour after a small hypodermic injection of morphia has been given to reduce cerebral vascularity. Dr. Keen has used ether in three cases, and speaks of it favourably.

Before making your incision, a light elastic cord should be wound round the head, tourniquet-like, to control all extra-cranial

hæmorrhage. It saves time and ensures a clearer field for work during subsequent proceedings. It is well also to indicate indelibly on the underlying bone the sites of the most important landmarks and also the point for the trephine pin, because when the soft parts are lifted, all accurate guides become lost. These marks can be made by puncturing through the scalp with a fine bradawl into the bone below.

The best form of flap is undoubtedly the semi-circular, cut large and with its base in the direction of the vessels supplying it. It is better to lift up the pericranium along with the flap, but when this cannot be done it must be divided by a crucial incision. The bone is most easily and most safely cut away with a one-inch trephine—Horsley prefers one two inches in diameter. But whatever instrument is chosen, the practical point is to make the opening through the bone large enough, extending it even to three or more inches in diameter if necessary. The bone as it is cut away must be carefully preserved in an aseptic solution at a temperature of about 100°. The incision in the dura must be made about one-quarter of an inch from the bone edges, and continued round about four-fifths of the opening, the uncut side of the membrane being towards its blood vessels. If, before incising, the dura is tense and bulges into the opening, it is a certain indication of increased intracranial pressure, possibly due to the presence of a tumour or an abscess, or possibly also to effusion into the ventricles or sac of the arachnoid. Hæmorrhage must be controlled by ligature, the actual cautery is inadmissible, and packing is to be avoided if possible.

When the brain is exposed much is to be learnt from its appearance, but a certain recognition of a particular part of a convolution is a matter of difficulty, often of impossibility when simply viewed through a limited opening. We have however a certain means of recognising our whereabouts by faradising the part exposed and watching the effect on the distant muscles. If the operation is for a focal epilepsy the convolutions must be investigated until the area is found where stimulation excites

the previously observed initial symptoms of the fit and must be excised with knife and scissors well into the underlying white matter. If a tumour is discovered its limits must be defined by increasing the size of the opening if necessary, to allow of its being easily lifted out with a scoop aided by the fingers. If an expected tumour is not seen on the surface the brain must be carefully palpated for underlying induration, and when this is found an incision down to the growth must be made vertically in the direction of the brain fibres. The gap resulting either after brain excision or the extraction of a tumour fills up to a great extent immediately by a falling together of the sides of the cavity. All bleeding having been arrested, a rubber or chicken bone drainage tube must be introduced to the bottom of the wound in the brain and the dura carefully sutured with fine interrupted catgut stitches. Over the dura the bone which has been cut away must be re-implanted, either in large masses as removed or after being chopped up into smaller pieces. Between these fragments capillary drains of horse-hair must be laid so that their ends come out through the external wound, when the scalp flap is brought down and secured with fine interrupted silver stitches. A soft uniformly compressing aseptic dressing—I prefer boracic acid and Gamgee tissue—must be secured over the whole scalp with gauze bandages. The patient should be placed for twenty-four or even forty-eight hours upon “starvation diet,” and should be kept in a darkened room. The chief drainage tube should be removed within forty-eight hours to allow of perfect primary union throughout. I have never applied an ice bag to the head as has been recommended, for I am persuaded that suppurative inflammation will not occur if proper cleanliness has been observed during operation and subsequent dressing.

If the operation is undertaken for abscess, a smaller opening in the bone will suffice; and when the brain is exposed, the abscess is to be found by means of a fine aspirator needle, which should be pushed deeply into the brain in all directions before the search is abandoned. When pus is found, the brain

must be incised so that a large-sized drainage tube can be passed well into the abscess, and through it a gentle stream of warm water or boracic lotion may be allowed to flow until the cavity is clean. The soft parts must be carefully closed, and dressed as before described, but the tube has to be withdrawn gradually and with caution. I think it better to allow the contracting cavity to push the tube out itself. Macewen relates a remarkable case, where he opened a three-ounce cerebral abscess, secured a chicken-bone drain in the cavity, and dressed the wound for the first time on the twenty-first day, when he found everything soundly healed! I have tried his chicken-bone drains in abscesses in other parts, and have seen suppuration still go on in spite of the most careful antiseptic precautions.

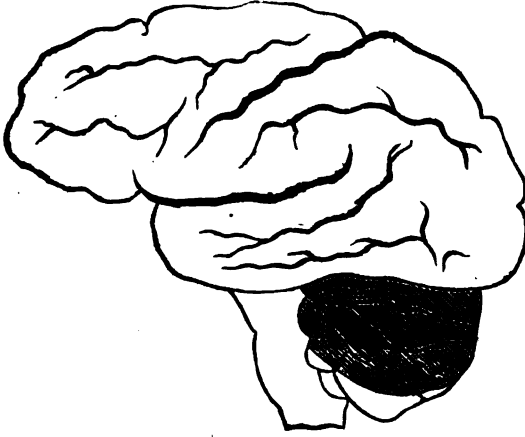
Case 1.—Glioma of Cerebellum; Operation; Tumour not Removable; Death. (Lancet, Oct. 1, 1887).

March 28th, 1887. Girl 12 years, admitted into Queen's Hospital, under Dr. Suckling: two years' symptoms of headache and vomiting: nine months' weakness in right arm and leg: three months' severe headache, localised on forehead above right eye: ocular paralyses: vertigo and staggering gait. Diagnosis of glioma of cerebellum probably in the left lobe.

Operation.—Curved incision downwards from occipital protuberance to base of mastoid; two one-inch trephine discs removed; crucial incision through tense dura mater; cerebellum bulged into the opening at once and rapidly became darker in colour; no hardness to finger; incision into brain substance attended by free bleeding; nothing definite could be made out; wound therefore closed; considerable shock followed, but she became conscious twelve hours later and spoke rationally. She remained, however, in more or less exhausted condition and died forty-eight hours after the operation.

Post mortem.—Nearly the whole left and part of middle lobes of cerebellum infiltrated by a non-encapsulated glioma: confirmed microscopically.

Fig. 1.

Case I.—Glioma of Cerebellum. Attempted removal. *Death.*

Remarks.—*Post mortem* examination showed the absolute impracticability of this tumour's removal, a fact which could not be determined before exploration; we have no means of estimating the exact extent of any cerebellar growth, neither is it possible, in many cases, to ascertain previously its pathological nature. I was unable even at the time of operation to understand exactly the state of things with which I was attempting to deal; but the two points which struck me most were the bulging of the tissues through the opening in the bone and the freeness of hæmorrhage.

Two other cases of cerebellar growths have been operated on, one by Mr. Victor Horsley and one by Mr. Bennett May, both were tubercular and both terminated fatally.

Case 2.—*Tumour at base of brain; Symptoms pointing to localisation in motor area; Coma; Operation; Tumour not in expected situation; No relief to symptoms; Death; P.M.*

November 23rd, 1888. A well-nourished man, aged 30 years, was admitted into Queen's Hospital, under Dr. Suckling, on account of severe left-sided headache, with vomiting and intense double optic neuritis. There was a history of convulsive attacks,

which always began in the right hand: consciousness never lost. These attacks were witnessed in hospital. Skull was tender on percussion on the left side: there was a history of chancre, but not of secondaries of any kind.

He greatly improved for a time under mercury and large doses of iodide of potassium and the application of a blister over the motor centre for the right hand: all convulsions ceased for several days, and he appeared to be much better. He soon however became strange in his manner, developed delusions, and had to be restrained; and not many hours later a rapidly progressing coma set in, and Dr. Suckling asked me to trephine him, with the object probably of removing a tumour from the left cerebral convolutions, or at any rate of relieving intracranial tension.

Operation—The scalp was prepared in the usual way, and the fissure of Rolando pencilled in by Professor Hare's method. Two turns of an elastic band were made about the skull to control bleeding from the scalp. Two discs of healthy bone were removed with a one-inch trephine, and the dura looked healthy beneath: it was tense and not pulsating. It was cut round about one-fourth of an inch from bone edge, and the post-central convolution at once pushed itself up into the wound, and although pale in colour at first, it rapidly became of a purple tint, probably from congestion due to pressure at the edges of the opening. No induration could be felt in the brain, and the opening was enlarged forward with cutting forceps until it was more than two inches in diameter in all directions. The tip of a finger inserted beneath the edges of the bone could not recognise the hardness of a new growth. A vertical incision was then made into the brain substance, but nothing was found. An aspirator needle was introduced deeply into the brain tissues and the syringe filled with clear fluid, of which about two ounces were withdrawn, coming probably from the lateral ventricles. Until this aspiration had been carried out it was impossible to repress the protruding brain tissue beneath the dura, but afterwards this could be accomplished, and the

wound was then brought together in the usual way. No relief to the coma followed the operation, and the man died some nine or ten hours afterwards.

Post mortem examination revealed several small gummatous tumours about the optic chiasma, which accounted for the severe optic neuritis. The ventricles were distended with a curious cystic growth, which projected forwards but did not damage the internal capsule. The hand centre was destroyed by the operation, so that its exact condition could not be determined. It was therefore impossible to say whether the focal epilepsy was due to a lesion—possibly syphilitic thrombosis, directly affecting this hand centre—or whether it was altogether an indirect or distant symptom of the tumours at the base.

Remarks.—Before proceeding to operations for cranial tumours, Dr. Weir, of New York, suggests that each case should have been carefully investigated with regard to five essential points; 1st, the undoubted presence of a tumour within the skull; 2nd, its exact location; 3rd, its depth from the surface; 4th, its solitude; and 5th, its structural nature. In rare cases only can all these particulars be satisfactorily determined. Other cases have already been recorded where “localising symptoms” have been present, and yet no lesion has been found in the corresponding centre. The explanation of these phenomena is at present obscure.

Case 3.—*Compound Fracture of Skull; Cerebral Abscess; Apparent death; Incision; Artificial respiration; Death on the 7th day; P.M.*

Jan. 15th, 1878. Charles S., 11 years, admitted into Queen’s Hospital. He had been struck on the forehead about nine weeks before; a small scale of bone exfoliated in consequence and wound healed slowly. Since the accident he had headache, flesh loss, and free discharge from the wound. On Jan. 1st the wound was sound and the boy appeared to be well. A fortnight later headache, weakness, and vomiting again came on with double optic neuritis.

Operation.—Jan. 31st he was trephined by the surgeon under

whose care he was. No pus being found between bone and dura mater, the operator declined to proceed further although cerebral abscess had been diagnosed. Symptoms were unrelieved. On the morning of Feb. 1st he became rapidly asphyxiated, and when I saw him he is said not to have breathed for several minutes. The temperature was 95.1°. Face deeply cyanosed: mouth filled with frothy saliva: pulse still perceptible: pupils widely dilated and motionless: limbs and trunk flaccid. I incised the tense dura mater and half an ounce of serum escaped; the underlying brain appeared healthy. I passed a grooved needle nearly one inch downward into it, and pus was discovered. I incised the brain freely with a bistoury and put in a drainage tube. Two or three ounces of pus escaped, but the boy showed absolutely no sign of life, the pulse by that time had ceased at the wrist. I began artificial respiration, with warmth and friction to the limbs, and in the course of ten minutes more the boy breathed again. About two hours later he asked for milk and spoke to his father and the nurse. There was no paralysis. Next morning he appeared to be better than since admission and I was encouraged to hope that he would get well. Two days later he again complained of headache and was restless, and his temperature rose to 104°. He took his nourishment greedily. He varied from day to day, evidently getting worse on the whole until Feb. 8th, when a rapidly increasing coma again came on and quickly carried him off.

Post mortem examination showed suppurative arachnitis over the right cerebral hemisphere, extending into the anterior fossa. In the right frontal lobe of the brain was an abscess cavity containing nearly two ounces of reddish yellow pus. An extension could be traced from its floor through the brain to its base near the right olfactory tube.

Remarks.—This case is interesting because it occurred nearly eleven years ago, and at a time when our knowledge of brain surgery was very limited. An accurate diagnosis was made, and if the operator who trephined the patient had proceeded further than he did I think the boy's life would have been saved. The

surgeon was a senior and had a traditional dread even of touching a structure so vital as the brain, and besides, his not finding pus between the dura and the bone satisfied him that suppuration could not have occurred in a deeper part. The somewhat sudden death—for so it really was, although perhaps we had better describe it as suspended animation—which occurred on Feb. 1st, doubtless depended on rapidly progressing intra-cranial pressure, which was due either to the abscess having made its way at its lower part on to the cerebral surface setting up an acute meningitis, to rapid distension of the ventricles, or to acute oedema of the brain tissue. When I saw the boy in this apparently dead condition I am afraid I did not proceed so carefully as I should have done had my operation been premeditated; however the case was dealt with with the materials which were at hand, and for a time with the most satisfactory results. The boy died from the extension of the suppuration to the meninges without a doubt, and this would have been prevented by a completely executed operation carried out when cerebral abscess was first diagnosed. The case was reported at the Medico-Chirurgical Society shortly after its occurrence.

Case 4.—Chronic Middle Ear Disease; Acute Symptoms; commencing Coma; Operation; Abscess of Temporo-sphenoidal lobe; Drainage; Recovery.

C. A. B., 29 years, seen in consultation with Dr. Parkes, of Handsworth, on October 18th, 1888. He had suffered from ear discharge since scarlatina of childhood. About eight weeks ago discharge ceased altogether, but he continued well until October 3rd. He then had severe headache with great prostration: temperature rose to 104° , with three rigors in twenty-four hours. Temperature remained high for twelve days and rigors were occasionally repeated; it then fell below normal, and was registered as low as 97.4° . Vomited three or four times during his illness. Great exhaustion and flesh loss. No convulsion; no paresis; no optical symptoms of any kind. He had been seen by a hospital physician and an aural specialist, who diagnosed intracranial inflammation and suggested the orthodox

treatment. During the last forty-eight hours had become somnolent: spoke only in whispers when roused. No tenderness about scalp or mastoid. A few hours after my first seeing him he became delirious and completely aphasic. The delirium passed away quickly, and he sank into stupor. When roused he could move all his limbs and appeared sensitive to pain.

A diagnosis of cerebral abscess was made, probably in the left temporo-sphenoidal lobe, and operation was at once proceeded to.

Operation.—Head was shaved and washed and chloroform given. As a precautionary step the mastoid process was cut into and the cells rapidly opened with a gouge; nothing abnormal was found in them. The skull was then trephined at a point about one and three quarter inches above and slightly in front of the auditory meatus. The external structure of the bone and the dura were perfectly healthy; the latter was tense and did not pulsate; on being incised, healthy cerebrum bulged up through the opening. A hypodermic needle was pushed into the brain with a slightly forward direction, and when about three quarters of an inch from the surface the barrel of the syringe filled with thin greenish yellowish fluid. The abscess was then incised as far as the trephine opening would allow, and a little finger passed through the incision into a large cavity; about four ounces of frightfully stinking pus escaped, with an odour precisely like that of ear discharge; a three and a half inch large-sized rubber drainage tube was inserted to the bottom of the cavity and brought out through a special opening made in the middle of the scalp flap. The edges of the wound were carefully sutured and dressed with dry boracic acid dressings. On the following morning he was able to speak slowly, but rationally.

Oct. 22nd. He was perfectly intelligent and free from all symptoms, but shortly after dressing wound he had a convulsion, which lasted about a minute and a half, and then passed completely away. Five minutes later he was as well as ever.

Oct. 27th. Was bright and cheerful until to-day; had

become torpid again; slight headache and vomiting; right facial paresis; right pupil a little larger than left. This relapse was due to an anxiety to shorten the drain tube too soon, for when wound was examined carefully with probe, nearly half a drachm of pent-up pus was liberated, and he was better again at once.

Nov. 3rd. He was bright and cheerful, took food greedily, and conversed perfectly well. He complained of some impairment of vision; examination discovered bilateral symmetrical hemianopia in left halves of retinae. No paralysis of any kind. Operation wounds soundly healed, except at drain tube.

Nov. 8th. General condition improving rapidly, but since last visit he cannot remember the names of objects. Amnesic aphasia is well marked to-day. He is conscious of his mistakes and laughs most heartily at them.

Nov. 20. He appeared to have gone back a little during last two or three days. A fresh and large drainage tube was introduced and he improved again rapidly.

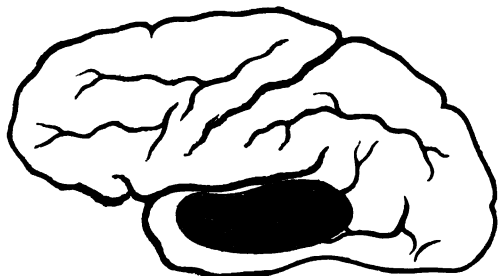
Nov. 27th. Complained of severe vertigo, came on when he moved his head about, or when he pressed deeply on the left ear. The ear was filled with a polypus which was shaved off.

Nov. 30th. No improvement in vertigo. My attention was first called to attacks of asthma and paroxysmal sneezing from which he had suffered for a long time. These were probably connected with a hypertrophic right turbinated bone and deflected nasal septum. The drainage tube was still in the brain, about one inch in length, but discharged less than half a drachm of pus in twenty-four hours. The general condition improved daily and he looked as well as ever he did in his life. The amnesic aphasia was better, but had not entirely gone. The hemianopsia remained unaltered. There was no paralysis anywhere.

Jan. 20, 1889. He keeps in splendid health and gets about as well as ever. The vertigo has almost entirely gone. The hemianopsia is stationary. There is a pinhole sinus at wound, leading probably to spicule of bone. His amnesia has almost disappeared. The ear still discharges.

The abscess was very large, and confined to the temporo-sphenoidal lobe, extending sufficiently far forwards to affect the centre of articulate speech, and far enough backwards to implicate the fibres which pass from the cuneus to the retina (fig. 2).

Fig. 2.



Case IV.—Cerebral Abscess. Operation. Recovery.

Remarks.—I would call attention to the critical state of this patient at the time of operation. I do not think he could have lived more than a few hours. The only localising symptom we had was a *complete aphasia* of such extremely rapid development that it was difficult to say whether the inability to speak was not really a feature only in the process of dying. The incision into the mastoid cells found them healthy, and strengthened slightly therefore the diagnosis which had been made. All the structures between the external skin and the cavity of the abscess itself were perfectly normal; and it is important to bear this in mind in such cases, lest the operator should lose faith in his judgment and should desist in his efforts before he has proceeded far enough. Few conditions call for more confidence in your diagnostic opinion at the time of operation than true intra-cerebral abscess. The relapses which occurred on several occasions were clearly traceable to faults in the drainage action of the tube, and demanded the closest watching at the hands of Dr. Parkes, to whose unremitting attention during the after treatment much of the success of the case is due. The right facial paresis which was noticed nine days after the operation, and which was only present a short time, depended

probably upon the implication of the facial centre by the essential reparative inflammatory process. The amnesic aphasia which appeared on the twentieth day was due perhaps to a similar pathological condition. The hemianopsia first noticed on the fifteenth day may have been present at the time of operation, depending probably upon damage to the fibres coming from the left cuneus on their way to pass through the internal capsule. The vertigo which began five weeks after the operation, and at a time, too, when the brain abscess appeared to be doing satisfactorily, was as puzzling as it was unwelcome; but the presence of a polypus in the ear offered a possible explanation for it, as did also the chronic affection of the nasal cavities, upon which the paroxysmal sneezing and nocturnal asthma most probably depend.

Case 5.—Chronic Otitis Suppurativa; Trephining for cerebral abscess; No pus found; Recovery; Relief to symptoms.

Nov. 8, 1887, William M., 15 years, labourer, admitted into Queen's Hospital. Had scarlet fever at 9 years, followed by discharge from right ear; two months ago headache began; three weeks pain, numbness and twitching in the right (?) arm, leg and face; drowsiness and flesh loss latterly.

On admission:—Temperature 103° ; pulse 94; drowsy, apathetic, right-sided headache; tenderness about mastoid; no paresis of any kind; vomiting; optic discs normal.

Nov. 16th. Temperature normal; symptoms had almost gone.

Nov. 24th. Occipital headache and vomiting; temperature 99; vomiting continued for eight days.

Dec. 1st. Mr. Priestley Smith reported "double optic neuritis"; epistaxis, three attacks in twenty-four hours. Dr. Suckling saw him and reported "headache, vomiting, emaciation and cachexia; double optic neuritis. Probably a collection of pus."

Operation.—Dec. 5th. Much worse; Head had been prepared in usual way. A half-inch trephine applied about three-fourths of an inch above and same distance in front of external auditory meatus; bone and dura healthy; a one and a half inch long hypodermic needle thrust in six or eight times in varying directions;

syringe filled with slightly turbid fluid in puncturing backwards and upwards, probably coming from the lateral ventricle. A similar trephine opening was next made beneath the superior curved line on the occipital bone, and the cerebellum punctured in all directions. On one occasion the syringe again filled with clear fluid (probably cerebro-spinal), and on another with pure blood (probably from the lateral sinus). A third trephine opening was made one and a quarter inches above and one inch behind the auditory meatus, and the cerebrum punctured in nine or ten places without any result. Finally, the top of the mastoid process was trephined, a little muco-pus only was discovered. No incisions were made through the dura at all. Wounds were sutured without drainage, and all healed soundly straight away. He had no bad symptoms whatever after the operation. Pain and vomiting ceased at once.

Dec. 31st. Apparently quite well; up daily and walking about the grounds; had gained flesh.

Jan. 6th, 1888. He went home, apparently well.

Jan. 31st. No symptoms. Mr. Priestley Smith reported that the optic neuritis is clearing up.

Mar. 8th. He kept quite well and had no symptoms of any kind.

This case is interesting not only because of the relief to symptoms which followed what was practically a negative operation, but also on account of the little ill effects resulting from puncture of the cerebrum in more than twenty places and the cerebellum in at least ten, one puncture being made into the lateral sinus. Several hypodermic syringefuls of fluid were withdrawn, and this may have relieved a tension, either intra- or extra-ventricular, which was giving rise to the symptoms of headache, vomiting, and double optic neuritis. Whatever the explanation may be there the fact is, that the boy was extremely bad at the time of operation and was going rapidly down hill, but that four weeks subsequently he went home apparently quite well and remained so when last seen, three months later. Might not the punctures have set going the resolution of a localised encephalitis?

Case 6.—*Otitis media suppurativa; Cerebral abscess; Basal meningitis; Operation; No relief to symptoms; Death; P.M.*

July 11th, 1886. Mary P., 21 years, sent to Queen's Hospital by my friend Dr. Whitby. She had measles two months before, followed by acute otitis media on the left side. The discharge ceased two or three days back, and pain in head came on at once. Vomited, but no rigors. On admission, delirious; drowsy; headache; pyrexia; mastoid region tender and swollen; slight left facial paralysis; no paralysis of limbs; optic discs normal.

Operation.—July 12th. Under chloroform; incision down to bone immediately behind auricle; from front of wound two drachms of stinking pus escaped; bone, inflamed, cut away until tympanic cavity freely opened, which was filled with pus: opening on bone extended forwards until the cranial cavity opened, pus escaping. Very little improvement followed, and she died comatose five days later.

The *post mortem* showed a collection of pus between the dura and the front of petrous bone, with suppurative basal arachnitis and phlebitis of longitudinal sinus, together with a two-ounce abscess in the temporo-sphenoidal lobe.

Remarks.—This case is quoted because of the short period in which extensive pathological changes had occurred, and also because of the association of temporo-sphenoidal abscess with pus in the mastoid cells as well as in the tympanic cavity. Abscesses in the brain are in 70 per cent. secondary to diseases or injuries of the cranial bones. They are frequently at a distance from the seat of primary disorder. The most common cause—42·5 per cent.—is disease of the middle ear. The majority of such abscesses are in the temporo-sphenoidal lobe. They are rarely superficial, but usually within the brain substance, and have a healthy layer of brain tissue above them. It is useful to remember that disease of the tympanic cavity, as a rule, gives rise to abscess in the cerebrum, and disease in the mastoid cells most often affects the cerebellum, and that throm-

basis of the lateral sinus and internal jugular vein is usually attended with tenderness down the side of the neck.

Case 7.—Old head injury; Persistent headache; Paresis of right upper limb; Trephining; Osseous hypertrophy; Relieved.

Dec. 13, 1886. Thomas A., 30 years, engine driver, was admitted into the Workhouse Infirmary under the care of Dr. Suckling, complaining of headache and vomiting. He had an old depressed fracture over anterior fontanelle, attributed to a fall downstairs on to a candlestick about five years before. He says he lost his memory for a day or two and had suffered more or less from headache ever since. Twelve months ago he became subject to occasional vomiting attacks, which still continued. His memory was impaired. Says his "sight all goes into one" when he attempted to read, although he could read perfectly well before the accident.

His headache was aggravated by walking about; had occasional vertigo; optic discs were normal; headache prevented sleep; at times his arms felt numb: wasting of muscles of left leg, forearm and interossei; numbness of left side, "it feels asleep;" clonic spasm of iris; right pupil larger.

The headache was excessively severe and did not yield to prolonged and varied treatment. It was thought justifiable, therefore, to trephine him near the seat of depression.

Operation.—The head was shaved and prepared in the usual way, and on Feb. 5, 1887, under chloroform I removed a disc of bone with a three-quarter inch trephine from a point behind and to the right of the depression, and a second button from exactly behind the first. The bone was five-eighths of an inch thick, but of apparently healthy structure. The dura was of normal tension and did not bulge. A puncture was made through it with a hypodermic syringe, but nothing escaped. A rubber tube was placed in the wound and the edges brought together. Dry boracic acid dressing was applied.

He had chloroform vomiting for two days, but on the third day the tube was removed and on the fifth the sutures also, and the wound was found soundly healed. All his symptoms seemed

to improve from the moment of the operation, but on March 28th, it was noted "general wasting of left upper extremity; has had two attacks of spasm (clonic) in left shoulder at night; pupils dilated."

May 21, 1887. Returned to work, but had an attack of giddiness and fell down a ladder and injured his back severely. His headache had been much less, the vomiting had not returned, but all other symptoms continued unaltered.

Remarks.—Trephining was practised here because of the chronicity and progressive character of the paretic symptoms, and because of the intensity of the headaches. The bone being found enormously thickened, it was deemed unjustifiable to proceed further. The dura was therefore unopened. Since the operation the headache has been very much better—for several months it was absent altogether. There has been no improvement, however, in the paresis. A satisfactory explanation of all the clinical features of this case is not very obvious, but that they are somehow dependent upon the accident five years ago is extremely probable. I may mention that antisyphilitic treatment did no good.

Case 8.—*Persistent headache at site of old injury; No localising symptoms; Trephining; Negative result; Recovery; Symptoms unrelieved.*

W. T., 29 years, came to Queen's Hospital September, 1885.

History.—He fell from a three-storey building on to his head seven years before. Was unconscious for a week. Since then had giddiness and loss of memory, and had six or seven fits during this time. No syphilis. Has been under treatment for long periods. On admission he complained of exquisite pain in a small area two and a half inches above and behind the right ear; "pain shoots down into his brain"; slight weakness in left upper limb; no vomiting; no optic neuritis. Medicinal treatment gave negative results, and he begged that something might be done for his relief.

Operation.—Oct. 10, 1885. Under chloroform, he was trephined at the seat of injury at a point about two inches below and half an

inch behind the right parietal eminence: disc of bone healthy; dura normal, non-pulsating. Brain was punctured with hypodermic needle in two or three places with negative results. The wound was closed and healed primarily in four days.

He left the hospital in November describing himself as very much better in every way.

In February, 1886, he returned as badly as ever, and I saw him some twelve months later apparently drifting into a state of insanity.

Remarks.—This case to me was an enigma from beginning to end. I am inclined to think the symptoms were those of a hypochondriac—using this term in its most modern sense, and that the malady was purely “psychical.” I took this view of his case from the beginning, and was induced to operate on him only by his pitiful and persistent importunities; he begged that something should be done to relieve him of his intolerable suffering. Nothing abnormal was found at the old site of injury in the scalp, bone, or outer surface of the dura, and I was disinclined to proceed further, and submit him to the risk of an open arachnoid, upon the slender evidence of organic lesion which our clinical observation had suggested to us. Although I have spoken of the “psychical” nature of the malady, I believe there are physical changes somewhere in the central nervous system in all cases of “hypochondriasis,” which our present methods of observation have not yet enabled us to discover.

Case 9.—Epilepsy; Old injury; Trephining; Cyst of arachnoid; Recovery.

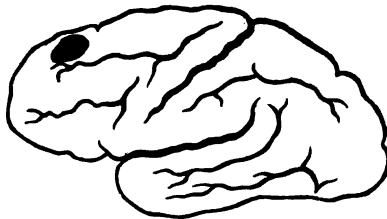
June 12. William H., 29 years, ironworker, transferred by Dr. Hogben from the out-patient department of Queen's Hospital. He had a fractured skull at six years old, due to fall from a roof, many fragments of bone coming away before the wound healed; epilepsy began seven years later; headaches during last two years; lately has developed after the fits feelings of a desire to murder; there are no localising phenomena; there is an oblique depression at upper part of left frontal bone. Under observation; general epileptic convulsions occurred on 12th, 14th, and 21st, without focal symptoms.

Operation.—June 22nd. Trephined at seat of injury. Bone absent in a small part where dura mater was adherent to scar. Arachnoid was opened, and about two or three drachms of pale fluid escaped. The exposed convolutions appeared healthy. The depressed portion of bone was cut away with chisel; dentate stalactites on its inner surface. Brain seen through opening in dura looked healthy and was not interfered with. The wound healed straight away, and patient was free from symptoms of any kind until July 4th, when he had a fit; next day two more, and another on the 18th. He left hospital on July 31st.

On Dec. 11th. He says he has had no fit since; but his friends tell him that he had an attack of some kind on the August Bank Holiday, the precise nature of which cannot be ascertained.

Remarks.—Trephining was justifiable in this case because of the progressing severity of the fits, but more so on account of the post-epileptic mental disturbances, which were increasing in their severity. The most dangerous of all kinds of insanity is that which affects some, at other times perfectly sane, epileptics after their convulsive seizures. Finding a collection of serum, probably encysted (fig. 3), when the dura was opened at the site

Fig. 3.



Case IX.—Cyst of Arachnoid. Operation. Recovery.

of the old injury, and having no localising symptoms of any kind to guide us further, I did not feel justified in interfering with the brain cortex, and was content, therefore, to complete the operation by cutting away the whole of the depressed bone. There can be no doubt that his condition since has been much better;

he has entirely lost his murderous inclinations, and certainly has not had more than three fits during the past three months.

It is in cases of focal epilepsy, probably, that real benefit is to be gained by operation. In cases where convulsion is local and constant we are advised to excise those unstable cerebral convolutions in which the discharge of nerve impulse originates. The brain is to be exposed in the ordinary way. The precise area is then ascertained by faradising the grey matter until the particular spot is found, the electrification of which gives rise to the "signal symptom" of the patient's attacks. The pia mater is carefully separated from the brain, and the convolution divided across vertically with a knife at the limits of the part to be removed, and then cut away below, well into the white matter, with curved scissors. Only three or four cases of the kind have been operated on, and it is too early to judge of permanent results; but it is satisfactory to know that none have died and that all have been for the time relieved of their convulsive attacks. It has been shown that certain cortical areas may be removed without permanent destruction following in the function of the corresponding part. The opposite side of the brain takes on the lost functions of the excised convolution.

I have several times trephined the skull for blood clots at a distance from the site of external injury, but I do not wish to include any of these cases in the present paper. I would rather reserve them for special consideration in a separate contribution.

ON THE VALUE OF PLASTIC METHODS AND THEIR PLACE IN SURGERY.

BY SIR WILLIAM MACCORMAC, M.A., F.R.C.S.,
SURGEON TO ST. THOMAS'S HOSPITAL, LONDON.

(Continued from p. 15.)

PLASTIC OPERATIONS UPON THE ARM FOR EXTENSIVE
DEFORMITY AND LOSS OF FUNCTION, THE RESULT OF BURN.

Abstract of Case.

Henry Tillyer, carman, *æt.* 33, was admitted to St. Thomas's Hospital, November 27th, 1884; discharged February 10th, 1885.

History.—At seven years of age he was severely burnt on the right arm and side of the chest by his clothes catching fire. After a time the burns healed, but by degrees the arm became fixed to the side, and flexed to a right angle at the elbow. He was recently treated at another hospital for four months. The treatment consisted in carrying weights; no operation was performed.

On admission.—The arm can only be slightly abducted at the shoulder-joint, the elbow cannot be extended beyond the right angle, and the thumb cannot be opposed to the fingers on account of web-like cicatricial bands, which extend from the thorax to the upper arm, from the upper arm to the forearm, across the elbow-joint in front, and from the forearm to the thumb on the radial border. The right side of the chest and two-thirds of the upper extremity are occupied by scar-tissue. A tough, fibrous cicatrix, measuring three inches in depth across its middle part, corresponding to posterior fold of axilla, reaches from the sixth rib to the middle of the inner side of the arm. There is a second band parallel to this one, and about an inch behind the free border of the pectoralis major. This band is two inches deep, and extends from two inches above and external to the nipple to the middle of inner side of arm, where it meets the posterior band, and joining with it forms a strong fibrous cord, which may be traced downwards along the

middle of the anterior aspect of the forearm, and then inclining towards its radial border, ends at the metacarpo-phalangeal joint of the thumb. Opposite the elbow joint this cicatricial web is about three inches deep, and its border presents throughout a thickened, cord-like appearance.

November 30th, 1884. Under ether a flap, $3\frac{1}{2}$ in. by 1 in., was raised from the front and outer aspect of forearm, the ends being left attached. Thus left, it became thick and vascular, and a month after was transposed.

January 1st, 1885, the patient being again under ether, the cicatricial bands of tissue stretching across from the front of the arm to the forearm were completely divided opposite the elbow-joint, taking great care to avoid injury to the brachial artery or median nerve. The incision was extended on the outer aspect of arm as far as the upper extremity of the flap, which was then divided at its lower end and sutured in the wound; antiseptic dressings were applied, and the arm fixed on an angular splint. Great care was taken to completely cut through every portion of the cicatricial tissue, and this permitted the immediate extension of the elbow, and allowed the flap to be implanted upon healthy tissue.

January 8th. Wound dressed; the extreme margin of the flap has sloughed, otherwise it is uniting well. Finally, it became soundly healed in its new position, and by degrees the arm became more and more extended, and the patient was discharged for a time to recruit.

May 4th. Patient readmitted. The flap is now nearly three inches wide at places, and the elbow-joint can be almost completely extended. The man is very anxious for his shoulder to be operated upon.

May 9th. Patient was placed under ether. Two parallel incisions, 5 inches long and $1\frac{1}{2}$ inches apart, were made in the skin covering the deltoid muscle, extending from the acromial end of the clavicle downwards along the front of the arm. A flap of skin was then raised between the incisions, leaving it attached at both ends. Two other parallel incisions, 5 inches long, and

including a flap of the same width, were made behind from the acromial end of clavicle downward on the back of the arm, and another flap thus made quite similar to that in front of the shoulder. Antiseptic dressings were applied.

June 18th. The flaps have progressed well, and are now, nearly six weeks after being detached, very thick and vascular. The second part of the operation was accordingly undertaken. An incision was made in the axilla from the anterior to the posterior folds, thoroughly dividing all the cicatricial bands, and thus creating a deep, wide gap. The upper ends of the flaps were then divided and brought together across the axilla so as to meet in the centre of the gap formed by the incision, where their extremities were united by sutures, and a few sutures were also introduced at the margins to steady them in their new position. Iodoform dressings were applied. Another bridge of skin, $3\frac{1}{2}$ inches by 1 inch, was at the same time made on the back of forearm near the wrist, to implant in the band which restrained the thumb.

July 3rd. The flaps in the axilla are doing well and look healthy. No more detailed notes need be given. They finally united soundly to the edges of the gap and to each other.

The subsequent progress of this stage of the case may be summed up by saying that the union of the flaps was thoroughly good, and they were soon seen to stretch by degrees under the influence of the contractile scar tissue, and the arm was to a notable extent released from the side. The skin flap alluded to, which had been detached above the wrist, unfortunately perished in the centre, and could not be utilised, as was intended, to implant in the band hyperextending the thumb. The man now left the hospital, his general condition being somewhat impaired by the long confinement.

October 6th, 1885.—Henry Tillyer was again admitted. Three operations had been previously performed; viz., one at the elbow, one at the shoulder, and one at the wrist. The two former were successful. In the one at the wrist the flap became gangrenous.

Present Condition.—The band of cicatricial tissue extending from the base of the thumb along the forearm remains unchanged. Action of thumb is impeded, and the band also restrains movement at the elbow and prevents complete extension.

Operation.—October 10th. As there was not enough healthy tissue near the wrist, a flap was taken from the chest.

Two parallel incisions, about $4\frac{1}{2}$ inches long, were made about $1\frac{1}{2}$ inch apart. The upper incision is opposite the fourth intercostal space, on right of sternum, and runs obliquely downwards to fifth left costal cartilage. The skin and superficial structures down to deep fascia were dissected up, leaving a bridge of tissue, which was separated from the deeper structures, except at the ends; oiled silk was inserted underneath the flap, and the wound dressed antiseptically.

November 7th. The second part of operation was performed four weeks after the first. Two transverse incisions were made in the cicatrix, and joined by a longitudinal one in the middle of the band, making an H-shaped wound. The edges of the two flaps thus formed were dissected up a little, and the cicatricial matter cut through, imperfectly as it afterwards turned out. The left hand of the thoracic flap was then divided and sutured to the external flap at the wrist, and by its sides as far as possible to the edges of the raw surface left by the dissection up of the wrist flap. The inner wrist flap was turned back and sutured, so that its deeper surface was in contact with the granulating surface of the thoracic flap. The wound was dressed antiseptically, and the hand and arm fixed to the chest with strips of plaster of Paris encasing the shoulder, arm, and hand, space being left to dress the wound.

November 8th to 14th. Wound dressed every day, after the first two days with boracic acid solution, this lotion suiting it better than iodoform. Temperature rose on the 8th to $101^{\circ}6$, but is now normal. On the 14th two stitches were taken out.

November 15th. End of flap has gaped $\frac{3}{4}$ in. between the edges; the parts were drawn together with strapping.

November 22nd. Strapping removed ; parts uniting well.

December 2nd. Patient got up, all going well.

December 11th. Some of the plaster of Paris was removed so as to dress and clean the wound more effectually. Space on chest whence the flap was removed is cicatrising. Temperature normal.

December 15th. Five weeks after the transplantation of the skin; the flap was partially divided at its attachment to the chest.

December 19th. Four days later the splint was removed, the thoracic end of flap completely cut through, and the divided extremity sutured to the wrist wound ; a little further dissection, and eversion of skin was necessary to make the raw surface large enough to receive the flap. Wound dressed once a day.

January 15th. The wounds are now nearly closed ; the man uses his arm, and he carries seven and ten pound weights in the hand to help to stretch the flap. He can flex thumb much better. The patient cannot abduct arm freely, as there are still two bands binding it down in the anterior and posterior axillary folds. The flaps first implanted do not allow sufficient extension in the large area of cicatricial material. It was therefore determined to implant in it two further portions, from the back and front of chest. The patient himself realising the advantages he has already gained, is most desirous to have a further operation performed.

January 17th. Patient put under ether. Sir William marked out two flaps of skin, one about 4 inches long and $1\frac{1}{2}$ inch wide, passing downwards and inwards over the pectoral region from the axillary fold ; the other on the back passing from the posterior axillary fold downwards and inwards nearly parallel to axillary border of scapula. The two flaps were dissected off the deep fascia so as to form two bridges of skin. Pieces of green protective were then placed under the flaps and antiseptic dressings applied.

The two flaps progressed well, became thick, a few adhesions formed at the angles, but these were broken down with the finger; there was no inflammation or other unfavourable

occurrence; and after an interval of three weeks the flaps were judged ready for transference to their new position.

February 6th. Ether administered. Patient placed on right side and left arm held up. An incision was made through the skin and subcutaneous tissue uniting the upper end of the outer border of the anterior flap and the upper end of the inner or axillary border of the posterior flap; all the bands of cicatricial tissue were completely divided, taking care to avoid damage to the blood-vessels and nerves; the arm having been a little abducted, the lower ends of the flaps were then cut through, and the flaps brought across to meet each other under the armpit. The bleeding was fairly free from the lower end of the anterior one, showing its vascularity to be good. The ends of the flaps were sutured together with four silk sutures. At the sides the flaps were also attached with interrupted sutures. The oozing of blood was stopped with some difficulty by pads of iodoform gauze. There was a small raw surface exposed in the apex of the axilla, where it was not possible to sew the flaps to the edge of the wound. Antiseptic dressings were applied, and a Stromeyer's cushion placed under the arm.

February 8th. Condition good. The discharge has soaked through the dressing of wool applied. Wound freshly dressed in the afternoon; flaps adherent except at one or two points; look healthy.

February 23rd. Flaps have adhered well; at first they had to be supported with strapping. There has been no sloughing at edges. The patient uses arm a little to stretch the skin.

March 11th. Wounds healing well, but not quickly. Finally sound union of the implants took place, and the arm can now be abducted very completely and to a sufficient degree for all practical purposes, while the movement at the elbow is quite free also.

The man presented himself for inspection in August, 1888, and can use his arm to his own complete satisfaction.

REPORTS OF CASES.

THREE CASES OF SARCOMA OF THE PLEURA.

BY ROBERT SAUNDBY, M.D. ED., F.R.C.P. LOND.,
PHYSICIAN TO THE GENERAL HOSPITAL.

(Continued from p. 43.)

Case III.—George P., fifty-one years of age, about whose previous health there was nothing noteworthy except that the affected side had six years previously been the seat of an attack of “pleurisy and pneumonia.” His illness began a month after Christmas, 1881, with cough, thick yellow expectoration and pains in various parts of the body, but most severe and constant in the right hypochondrium. He soon after this began to spit blood and suffered from profuse night sweats. About this time he was seized with a pain in the left side of the neck, which was followed by œdema of the *left* arm extending to the left side of the neck and trunk. He told me that there was a lump to be felt in the axilla and a red streak ran down the arm, so that the swelling was probably due to phlebitis affecting the axillary vein. In about two months this swelling disappeared, and he returned to his work, after an absence altogether of eleven weeks, *feeling quite well*. But in three or four weeks the cough returned and with it swelling of the *right* arm which became red and shining. He suffered a good deal from dyspnœa. This second attack of phlebitis, this time in the right subclavian vein, passed off and in five weeks he felt quite well, but for some degree of shortness of breath which never afterwards left him. In the second attack of phlebitis the hæmoptysis recurred but did not last long. During all this time he had lost a good deal of weight, but his appetite remained fair.

On admission he was a fairly well developed man, with no subcutaneous fat. There was slight œdema of the upper part of the right side of the thorax, right side of neck and right shoulder. The veins of the right arm were dilated and large veins were seen running over the right side of the thorax in the

pectoral region. The whole of the right side of the chest was dull on percussion, expansion was almost negative, vocal vibrations were absent, and the breath sounds were heard very feebly or not at all. The heart's apex was not displaced; the left lung was normal; the heart sounds were normal. Examination of the other organs gave negative results. There were no enlarged glands to be found anywhere. A hypodermic needle was introduced on the right side and a small quantity of bloody fluid drawn off, which on microscopical examination showed only blood corpuscles. Malignant disease of the pleura was diagnosed and the treatment was necessarily palliative. He got good food, extra milk and eggs, four ounces of port wine, with quinine and cod liver oil. As he still complained much of dyspnoea, the right side was aspirated and seven ounces of bloody fluid drawn off. The needle then became choked, and as the patient felt relieved no more was taken away. He expressed considerable relief from the operation. The fluid examined microscopically showed only blood corpuscles. After this he improved very much, and was anxious to leave, which he ultimately did on account of some dispute with the nurse, after being one month in hospital. He attended as an out-patient, and I saw him occasionally for the next two months. His general condition continued fairly satisfactory. He then ceased to attend, and on December 21st, 1882, I heard he had died at Stourbridge.

At the autopsy, made on the 22nd, the body did not show much emaciation; there was no cedema. The right pleural cavity was full of chocolate-coloured fluid, which began to pour out directly I removed the sternum, and half filled the left pleural cavity. After removing the fluid no tumour could be felt, but the right lung was lying collapsed along the spinal fossa. The lining of the cavity was quite smooth. In order to get out the lung, fibrous tissue half an inch thick had to be cut through, and the pleura was similarly thickened all over the inside of the ribs. At the base the lung was adherent to the diaphragm, and after removing it, part of the upper convex surface of the liver was found to have been cut away with it. The lung substance was collapsed but healthy, its pleural

surface was thickened ; at the base half an inch of glistening, fibrous-looking tissue united the lung to the diaphragm, and on the lower side this muscle was united to the liver by the same material. The right pleural cavity was empty, the lung was healthy, except that there was a little recent pleurisy on the external surface of the lower lobe. The pericardium was empty. The heart's cavities were filled with soft clot. The valves were quite healthy.

The peritoneal cavity contained about a pint of turbid fluid. There were numerous white nodules, varying in size from a millet seed to a pea, scattered through the mesentery and over the peritoneal covering of the bowels, while a mass as large as a hazel nut was situated on the lower part of the great omentum.

The liver was, except as already described, apparently normal, as were also the spleen and kidneys.

Under the microscope the thickened pleura was found to consist of tubular and irregular alveoli containing large endothelial cells imbedded in a dense fibrous stroma ; the lung tissue was not invaded. The fibrous tissue connecting the liver and diaphragm was of the same type ; there was very slight invasion of the liver substance, marked chiefly by cellular infiltration of the interlobular fissures and spaces immediately adjacent. The mass on the omentum was typical alveolar sarcoma.

Remarks.—It is worth noting that in all these cases the starting point of the disease seems to have been an ordinary bronchitic affection of the lungs caused by cold ; and that in two there was an inherited tendency to phthisis. In the first case tubercular phthisis was actually present, and complicated by its signs and symptoms the natural course of the pleural condition. The disease is a primary alveolar sarcoma of the pleura, originating in the endothelium of the lymphatics. It tends to affect neighbouring glands. The earliest symptoms are not definite—cough, expectoration, hæmoptysis, followed by pleuritic effusion. This effusion rapidly attains great dimensions, causing, if on the left side, marked displacement of the heart. *Pain* is a very constant symptom ; the fluid when drawn off is *bloody*.

This may not be so at first, or the fluid may be missed altogether by the needle running into a mass of new growth. More than one puncture should be made where the other signs and symptoms warrant it. This preliminary puncture should *always* be made with a hypodermic needle, *never* with an aspirator. *Dysphagia* is a symptom of great importance when it is present, as it is strong evidence of some new growth. The superficial *veins* over the thorax are dilated, the *glands* in the axilla and groin become enlarged. The peritoneum may be involved, causing *ascites*, and the liver is often affected, alterations in its size becoming perceptible by percussion and palpation.

The duration of the disease is about one year from its commencement. Apparent remissions occur, and for some time the patient may retain a fair amount of general health and strength. The ultimate prognosis is absolutely hopeless, once the diagnosis is fully established; the treatment can therefore be only palliative. The fluid should be drained off with discretion to relieve symptoms caused by its excessive accumulation. Opium must be given to relieve pain, while the general strength is supported as well as possible by nutritious food and stimulants.

BIBLIOGRAPHY.

- Ayrolles. *Progrès Méd.*, 1885. 11., p. 76.
 Bidal. *Bulletins de la Soc. Anat.* Tome xxvii.
 Böhm. *Virchow's Archiv.* Bd. LXXXI.
 Collier. *Lancet*, 1885. 11., p. 945.
 Deruschinsky. *Deutsche Med. Wochschr.* Bd. xiv, 1888, p. 52.
 Dieulafoy. *Bull. et mém. Soc. méd. d. Hôp. de Paris.* 1886.
 Eppinger. *Schmidt's Jahrbuch.* 1880.
 Ewart. *Brit. Med. Jour.*, 1885. 11., p. 917.
 Felix et Stocquart. *Arch. de Méd. et Chir. prat.*, 1887-8. 11., p. 25.
 Goughenheim. *Bull. et mém. Soc. méd. d. Hôp. de Paris.* 1886.
 Greenish. *Journ. of Anat. and Phys.* Vol. xvii., p. 333.
 Hofmokl. *Archiv für Kinderh.* Bd. v., 1884. p. 196; Bd. vii, 1886, p. 81.
 Lebert. *Traité d'anat. path.*
 Léptne. *Bull. de la Soc. Anat.* Tome xiv.
 Leube. *Sitzungsab. der phys.-med. Gesellsch. zu Würzb.*, 1887, p. 115.
 Wien. *med. Bl.* Bd. xi., 1888, p. 8.
 Schülz. *Archiv. der Heilkunde.* Bd. xv.
 Unserricht. *Zeit.-chr. f. klin. Med.*, 1882.

PERISCOPE.

THERAPEUTICS.

BY ROBERT SAUNDBY, M.D. EDIN., F.R.C.P. LOND.

The Treatment of Diphtheria.—The following summary of recent suggestions may prove of service :—

Vleming's Solution.—Dr. G. E. Hubbard (*New York Medical Record*) recommends the use of this solution as a spray. Its formula is :—Quicklime, lb. j ; flowers of sulphur, lb. ij ; water, lb. xx. Boil until 12lb. remain and then filter.

Breunig on the Treatment of Diphtheria.—Dr. Gerhard von Breunig, of Vienna, recommends cauterisation for diphtheria (*Med. Chirurg. Centralblatt*, No. 40, 1888).—Long sticks of caustic are apt to break, and must therefore be avoided ; but neither may the stick be too short, else it will not reach the lowest part of the ulcer. The best plan is to fasten a piece, from two to three centimètres long, into a quill with thread and sealing-wax. Paint well all the diseased spots every hour with acidi hydrochlor., dil. 4 parts in syr. mori 20 parts, to which may be added, if required, chlorate of potass., &c. Acidulous drinks (lemonade, acid. hydrochlor. vel phosph., dil. in sweetened water) must be frequently swallowed. Cold compresses, fomentations, or hot poultices must be applied to the throat. Immoderate swallowing of ice pills tends to produce catarrh of the stomach. Quinine (preferably with hydrochloric acid) must be given twice in twenty-four hours. The diet must be simple. If there is fever let it be soup, milk, and, if necessary, wine ; in the absence of fever consult the appetite, and give solid food. Should the digestion be disturbed, give an emetic (pulv. rad. ipecac. 1·50, with antim. tart. 0·02), even if there are only signs of reaction, and now and then the following mixture :—Antim. tart. 0·04 in aq. destill. 20·00, ten to fifteen drops frequently, and even for several consecutive days if there is delay in the

ejection of the membrane. Breunig insists that emetics composed solely of antimony, even in very strong doses (e.g. 0.02 to a powder, or 0.40 to 20.00 water given in doses of from ten to fifteen drops), are not so efficient as when accompanied with a few doses of ipecacuanha, which is possessed of far greater alterative properties.—*London Medical Recorder.*

Nitroglycerin in Affections of the Heart and Kidneys.—Nitroglycerin in moderate doses has in many cases proved very useful. Experiments made with this substance have shown that it reduces arterial tension, raises the action of the heart, and moderates the pulse. Under its influence the sounds at the apex become more sonorous, the face becomes red, there are alternate sensations of warmth and cold in the head and face. Its action is analogous to that of nitrite of amyl and nitrite of sodium. Most authors prescribe 1 per 1000 drops to begin with. Korczynski records a case of aortic contraction in which 30 drops of a solution of one per cent. were administered, but in other cases 1-50 of a drop has determined morbid symptoms. M. Holst, who has lately studied the action of nitroglycerin, attributes these symptoms to individual reaction in different patients. He cites a number of cases in which he has employed this substance, which proved efficacious in certain instances, but in others had no effect. He concludes that nitroglycerin has an energetic action on the innervation of the heart, but that it is only obtained when there is no organic lesion in the heart or aorta, or is only rarely observed in such cases. Dr. Holst cured a patient suffering from angina pectoris with nitroglycerin, but in this instance there was no organic affection of the heart. He believes that nitroglycerin might be employed with advantage in illnesses in which the heart is seriously weakened, and which have hitherto been treated with camphor, musk, etc. He does not regard this substance as a diuretic, although he has found that it increased the flow of the urine in certain cases. This result he attributes to the increased action and regularity of the heart caused by nitroglycerin. It is impossible to prescribe fixed doses of nitroglycerin. Certain patients may take

repeated doses of 6 drops with impunity, while with others 4 drops slacken the pulse to a considerable extent. Small doses should be administered at first, which may be gradually increased.—*Therapeutic Gazette*.

Some Clinical Experiences with Insomnia.—E. N. Brush (*The Practitioner*, January, 1889).—Brush recommends in nervous insomnia the use of a hot bath or hot sponging over the spine, with hot food—e.g., gruel, soup—at bed-time.

The Chemico-Physiology of Sulphonal.—W. J. Smith (*The Practitioner*, January, 1889).—By experiments on animals Smith concludes that sulphonal does not increase the elimination of urea, while the drug itself becomes converted into a sulphuretted organic substance, the nature of which is to form the subject of a further communication.

A Hitherto Unobserved Effect of the Salicylates.—G. A. Gibson and R. W. Felkin (*The Practitioner*, January, 1889).—The authors report extreme contraction of the pupil following the administration of sodium salicylate (20 grains every two hours) in a middle-aged lady who was suffering from pains in the head and limbs.

Antipyrin Rashes.—C. C. Claremont (*Brit. Med. Journal*, Oct. 27th, 1888).—In one case the eruption followed ten daily doses of 15 grains each. It was at first like measles, but afterwards developed into enormous erythematous blotches. In the other the drug had been given in 15 grain doses, but had been discontinued for four days. The rash was papulo-erythematous, commencing on the extensor surfaces of the extremities.

Antipyrin Œdema.—Grognot (*Medical News*, Sept. 8th, 1888).—Twenty minutes after a dose of 15 grains of antipyrin the patient experienced dryness of the throat and nasal passages, with great dyspnoea. The face grew pale and œdematous. These symptoms disappeared in half an hour, but recurred after a second dose of the drug.

Antipyrin Hypodermically.—Berdach has employed with excellent results the local hypodermic injection of a 50 per cent. solution of antipyrin for the relief of all kinds of pain.

Acetic Acid.—F. Engelmann (*Deutsche Med. Wochenschr.*, 1888, No. 46), after extended bacteriological studies on substances having the power of preventing the growth of micro-organisms in diphtheria, recommends acetic acid on account of its high degree of penetrative power, its antiseptic properties, its harmlessness and the slight irritation which it produces.

Eucalyptus Vapor.—Dr. J. Murray Gibbes (*Austral. Med. Journal*, Oct. 15, 1888) keeps his patient in a tent, the air of which is moistened by steam from a jug in which boiling water has been poured on eucalyptus leaves.

Sugar.—C. Lorey (*Deutsche Med. Wochenschr.*, 1888, No. 46) recommends the insufflation of very finely powdered sugar on the tonsils, pharynx, posterior nares, the entrance to the larynx, and, after tracheotomy, through the cannula.

Some Fijian Drugs and Methods of Treatment.—A. J. F. Skottowe, (*Glasgow Med. Journ.*, Jan. 1889.)—Skottowe contributes an interesting but somewhat sketchy and diffuse paper on native medical matters in Fiji. The medical practitioners in these islands are old women who make use of a nostrum of herbs given in infusion, with many mystic ceremonies. As might be expected the chief part of their practice is directed to procuring abortion, promoting conception, aiding delivery, promoting menstruation and allaying its pain, for all of which there are appropriate nostrums. Leprosy is treated by hanging the patient head downwards over a fire built of a particular wood (*excæcaria agolloclea*, N. O. *euphorbiaceæ*), and diseases of the abdomen by a form of perineal section. There does not seem to be a single rational idea in the entire practice of Fiji as recorded by Dr. Skottowe, and it is to be hoped that the *Vu ni wai*, as these old women are called, will soon become mere matters of history.

Batijior Root.—This is a root sold in Senegambia and now identified as belonging to *vernonia nigritiana*. It is supposed locally to have febrifuge, emetic, styptic and astringent properties. Heckel and Schlagdenhauffen (*Archives de Physiologie*, August, 1888) find in it a glucoside $C_{10}H_{14}O$, which they

have named *vernonine*. Its action slows the heart and ultimately arrests it in systole, thus resembling digitalis. It also paralyses peripheral nerves when injected locally.

A New Use for Ether during Anæsthesia.—Very frequently during the early stages of the administration of an anæsthetic, the patient "forgets to breathe" even before the ability to perceive peripheral irritation is lost. Even later in anæsthesia, when the breathing suddenly ceases, we are accustomed to use cold water externally and to slap the patient with wet towels. Such measures are generally called for hurriedly, and it is not at all uncommon for an exasperating delay to occur before the water arrives. The ether is always at hand, however, and I have found that in a large number of instances, both in man and in the lower animals, the free use of ether poured upon the belly causes so great a shock by the cold produced by its evaporation, as to cause a very deep inspiration, which is often followed by the normal respiratory movements. This is, of course, a simple procedure, and one which has probably been used by others, but I have never seen it so employed.—H. A. Hare, M.D., in *Maryland Medical Journal*.

Smith on Treatment of Phthisis by Carbolate of Camphor.—Dr. R. Shingleton Smith records two cases of phthisis treated by subcutaneous and intra-pulmonary injections of carbolate of camphor. Both cases improved greatly under the treatment. The injections consisted of ten, fifteen, or twenty minims of a saturated solution of camphor in carbolic acid, and were at first administered subcutaneously, and afterwards into the lung-tissue about the diseased areas in the apices. The latter gave rise to no sign of lung irritation, and the subcutaneous injections produced slight smarting only. These were given at first every second or third day, but afterwards daily, and about fifty injections in all were used in the course of ten weeks in the first case. In the second, the whole quantity injected in twenty-five days amounted to 245 minims, 60 minims having been diffused in the diseased tissues in the apex of the right lung. The intra-pulmonary injections were preferred by one of the patients, as

they "did not hurt so much as the subcutaneous ones." A slight rise of temperature was observed after the injection in one or two instances, but no other evidence of irritation was noticed.

An Observation on the Treatment of Typhoid Fever.—J. Burney Yeo (*Amer. Journal of Med. Sci.*, 1888).—Burney Yeo recommends the use of a mixture, the preparation of which he thus describes :—

"Put one drachm of powdered chlorate of potash into an empty twelve-ounce bottle ; add one drachm of strong hydrochloric acid. A greenish-coloured gas at once begins to come off, composed in part of chlorine. Keep the bottle stopped with the finger for a few minutes until it has become filled with the gas ; then add water, little by little, shaking up the water with the gas at each addition, until the bottle is nearly full. You will now have in the bottle a solution of chlorine, together with hypochlorous acid and a small quantity of unaltered chlorate of potash and hydrochloric acid. To this solution I add sulphate of quinine, in the proportion of two to three grains to the ounce, and a little syrup."

The most definite effect is that it improves the offensive odour of the stools. As, he says, it is certain the mixture is decomposed in the stomach, he infers that this must be due to its antiseptic effect on the blood. It would, however, seem possible that part of the chlorate of potash would pass into the intestine with the contents of the stomach and exercise its antiseptic effect directly. But Dr. Yeo is a professor of therapeutics !

Treatment of Pruritus Vulvæ.—Dr. Percy Newell suggests the lotion recommended in Atthill's Diseases of Women, viz. :— $\mathfrak{R}$ acidi carbolic, gr. xx ; tr. opii, iv ; acid. hydrocyanic dil., $\mathfrak{z}$ ij ; glycerin, $\mathfrak{z}$ iv ; aquæ q. s. ad $\mathfrak{z}$ iv ; M. ft. lot. sup. int.

Mr. Charles H. Bedford suggests bathing the parts night and morning with water as hot as it can be borne, and, if necessary, using vaginal douches of same ; also any of the following :—Ung. zinci oxidi, ung. plumbi acetatis, ung. hydrarg. nit., $\bar{a}\bar{a}$ partes æquales, apply thrice daily ; ol. menth. pip. applied "neat" with a brush to the parts every three hours (specially

recommended); borax ʒj, ol. menth. pip. ℥v, aq. Oj; ext. bellad. glycer., equal parts, very useful and soothing with or without acid. hydrocyan. dil ʒss—ʒj; and lastly (especially for an old standing case) ung. picis, lanolin, and vaseline, part. æqual. Also order a mixture containing liq. arsenicalis (Fowler) ℥v, sodii bromidi gr. x to xx, ter in die, and interdict scratching.

Deputy Surgeon-General Scanlon advises: ʒ cocaine gr. x; lanolin ʒj. M. ft. ung. A small quantity to be rubbed in; or even apply ice.

Dr. J. O'Connor recommends liq. carbonis detergens ʒj ad Oj.

Dr. G. Parker May recommends the following treatment: Vagina to be washed twice a day with carbolic acid lotion (1 part in 50). After each ablution, nitrate of mercury ointment to be applied to the whole vaginal surface. If pustulous or very irritable, apply the ointment, when melted, with a soft brush. In addition, solution of nitrate of silver to the morbid surface twice or three times a week.

Tenax advises a ten per cent. solution of cocaine, especially at night, and keeping the parts well dusted over with equal parts of pulv. camph., zinci oxid., and pulv. amyli. In one of his cases scratching produced eczema.

Cocaine in Quinsy.—The *British Medical Journal* of May 19, 1888, contains an article by Dr. de Havilland Hall on the treatment of acute tonsillitis by cocaine. He reports several cases in which the disease had been cut short by the free application to the fauces of a twenty per cent. solution of cocaine, and believes that the drug acts by diminishing the sensibility so that deglutition can take place without pain, and also by diminishing the local congestion so that the inflammatory process is arrested. It would appear that cocaine is more active after the throat has been cleansed by a solution of bicarbonate of soda.

Cascara in Rheumatism.—Mr. J. P. Martin (*Lancet*, Sept., 1888), recommends the union of 10 minims of fluid extract of cascara sagrada with 15 grains of salicylate of sodium in orange flower water, every 3 or 4 hours, in the treatment of rheumatism.

The uses of Gelsemium.—Dr. Garland (*Boston Med. and Surg. Journal*, Sept. 13, 1888), recommends this drug in "catarrhal" headaches, in neuralgias, as a diaphoretic in tonsillitis, to relieve cough in acute bronchitis, to soften a rigid unyielding os, and to diminish after pains. The dose of the official tincture (B.P.) is 5 to 30 minims.

Creosote in Phthisis.—Driver (*Berl. Med. Woch.*, No. 35, 1888), thinks the only form of phthisis which is benefited by this drug is the torpid scrofulous form, with little fever and emaciation, and lung signs in excess of general constitutional disturbance.

Pyrodine.—This is a new and powerful antipyretic, the use of which is attended with danger, doses of 8 to 12 grains having caused toxic symptoms in the practice of Dr. Dreschfeld.

RENAL AND URINARY DISEASES.

BY ROBERT SAUNDBY, M.D. EDIN., F.R.C.P. LOND.

Recherches Expérimentales sur la Pathogénie des Néphrites par Auto-intoxication.—E. Gaucher (*Revue de Médecine*, 1888, No. 11, p. 885).—In a former paper Gaucher showed that excess of tyrosin in the blood can set up nephritis. He now seeks to prove that all products of disassimilation act in the same way upon the kidneys, his present paper dealing with those products of the retrogressive changes in nitrogenous food, commonly called extractives,—leucin, tyrosin, kreatin, kreatinin, xanthin and hypoxanthin. All these products should normally be converted into urea. He gives the following table to illustrate their relations :—

Kreatinin	. . .	$C_4H_7N_3O$	
Leucin	. . .	$C_6H_{11}NO_2$	
Kreatin	. . .	$C_4H_9N_3O_2 + H_2O$	
Tyrosin	. . .	$C_9H_{11}NO_3$	
Urea			CH_4N_2O
Hypoxanthin	. . .	$C_5H_8N_4O$	
Xanthin	. . .	$C_5H_8N_4O_2$	
Uric Acid	. . .	$C_5H_4N_4O_6$	

- This transformation of nitrogenous material into urea takes place nominally in the liver; where this is diseased the production of urea is interfered with and the quantity of extractives in the blood becomes increased. The same occurs in all diseases of enfeebled nutrition, in certain cachexias and in many chronic diseases. The extractives are also increased in fevers when combustion is too rapid and necessarily also incomplete.

Experiments on guinea pigs by injecting solutions of leucin, tyrosin, kreatin, kreatinin, xanthin and hypoxanthin caused nephritis in each instance.

The epithelium of the kidneys was chiefly affected. Vegetable and mineral poisons (*e.g.*, oxalic acid and lead) act similarly by attacking the epithelium.

Gros Foie dans la Maladie de Bright.—V. Hanot (*Archives Générales de Médecine*, Dec., 1888).—Hanot seeks to describe a form of hypertrophy of the liver occurring in the later stages of chronic Bright's disease which might be called the "uræmic liver," being caused by the specific dyscrasia depending upon the renal malady. He appends a case in which the only information respecting the liver is that during life it surpassed the costal border by five fingers' breadth and after death weighed 1,850 grammes (60 ounces). But he promises further cases and an analysis on the first opportunity.

The Systematic Examination of the Urine for Proteids, with a simple method for the quantitative determination of serum albumen, and serum globulin.—Noel Paton (*Edin. Med. Journal*, 1888, No. CDII., p. 522).—Noel Paton has suggested the following method of determining the amount of serum globulin in urine. The total proteids of the urine are first determined by Esbach's method.

Fifty ccm. of the urine are now taken in a flask and rendered faintly alkaline with a drop or two of liq. potassæ. Sulphate of magnesium in powder is then added—the flask being frequently shaken—till a completely saturated solution is produced, and this is allowed to stand in a warm place for twenty-four hours.

In this way the globulin is completely precipitated. The solution is then measured and filtered, and an Esbach's tube is filled up to the mark with the filtrate, and the picric acid solution added in the usual way, when the serum albumen is thrown down and its amount may be read off. Five days should be allowed to elapse for the precipitate to settle properly. The difference between the amount of serum albumen and the amount of total proteids is the quantity of serum globulin. The method is fairly accurate.

The determination of Albumen in the Urine.—H. Schaumann, (*Zeitschrift für Analytische Chemie*. Vol xxvii., part 5).—Schaumann has proposed the following modification of the ordinary gravimetric method of estimating albumen. He employs a plug of absorbent cotton wool instead of filter paper, which is fitted into an Allihn's filter tube. The tube with its plug is dried at 110° C. and weighed. The tube is then fixed on a filter support and connected with a filter pump. The albumen in a weighed quantity of urine is precipitated by heating on a water bath for half an hour after acidulation with acetic acid. The supernatant liquid is poured into the tube and the precipitate washed repeatedly with hot water, and the washings poured into the tube before the precipitate is carefully introduced. It is then washed again by pumping hot water through the filter till the washings no longer give any chloride reaction with silver nitrate. The tube is then closed at the wider end with a cork, perforated to admit a glass tube, and is then placed in an iron drying box provided with apertures at each end in which the tube is fitted. The end having the perforated cork is connected with a calcium chloride tube and a wash bottle charged with sulphuric acid, whilst the drawn-out end is connected with an aspirator. A moderately rapid stream of dried air is then drawn through the tube for an hour; the temperature of the drying-box is raised gradually to 100° C., and after an hour to 110° . After heating at this temperature, dried air still being drawn through, the tube is weighed every half-hour until

the weight is constant. The difference between the weight and that of the fitted tube before being used represents the weight of dried albumen contained in it.

Quantitative Estimation of Albumen in the Urine.—The possibility of estimating the amount of albumen in fluid by the difference in specific gravity before and after the coagulation of the albumen has been experimentally investigated by Huppert and Zahor, and the last-named has attempted to apply the method to the urine. He recommends that the proportion of acetic acid required to coagulate the whole of the albumen on boiling should be ascertained by a preliminary experiment. A specimen of the urine after filtration is then treated with the necessary amount of acetic acid and divided into two parts; one part is put into a bottle, which must be stoppered with an india-rubber cork and kept in a water bath at a temperature of 100° C. for ten minutes or a quarter of an hour. The urine is then cooled and filtered, care being taken to prevent loss by evaporation during this process. The filtrate and the portion of acidified urine originally reserved are then brought to the same temperature in a warm bath and the specific gravity of both very carefully taken. The difference between the two figures thus obtained multiplied by 400, the average co-efficient ascertained by experiment, gives the amount of albumen in grammes in 100 cubic centimètres. The average error is stated to be + or - 0.0175 gramme, but may amount to 0.05 — *Brit. Med. Jour.*, 1888, II., p. 1,176.

The Quantitative Estimation of Uric Acid.—Dr. Czapek (Hoppe Seyler's *Zeitschrift für Physiologie*, Bd. XII., h. 6) recommends a simple modification of Haycraft's method. A measured quantity of the silver solution is mixed with a measured quantity of urine, filtered, and the amount of silver in the filtrate estimated by titration with potassium sulphide; this method, though simple, has the damning drawback of being very far from accurate, the average error being 10 to 15 per cent. In the same number Dr. Herrmann reports very favourably on Haycraft's method as compared with Ludwig's, for its practicability and rapidity of performance.

SURGERY.

BY WILLIAM F. HASLAM, F.R.C.S.

DISEASES OF BONES AND JOINTS.

Fracture and Dislocation of the Vertebral Column ; operation, improvement.—Dr. J. Ewing Mears reported this case at a meeting of the Philadelphia Academy of Surgery on December 3rd, 1888 (*Medical News*, Dec. 22).—On June 18 a woman aged 29 fell from a third story window, probably while in an epileptic fit. Examination revealed a fracture and dislocation in the lower dorsal or upper lumbar region. She had paraplegia, incontinence of urine and fæces, and aching pains in the lower extremities, but no loss of sensation. The next day an attempt was made to relieve the deformity by extension ; this however failed. On the 29th, as the urine gave a thick deposit and was very ammoniacal, the bladder was washed out with a weak boracic acid solution ; the lower limbs were cold, and there was no return of motion. The seat of injury was then explored by a five inch incision to the left of the spinous processes, and a dislocation between the first and second lumbar vertebræ with a fracture of the body of the first was found. The dislocation was so fixed that reduction was impossible. Dr. Mears then cut away the articular process and also the lamina of the first vertebra, exposing the canal, and with the finger explored the fracture. The wound was drained, sutured, and dressed antiseptically. The operation relieved the compression to a certain extent, but the urine continued purulent and offensive for some time. On August 6th massage was begun and followed for three weeks. Under this there was some return of motion in the left leg. On Dec. 2nd the patient was able to flex and extend the left foot, move the toes, and flex the left knee slightly. There has been slight return of motion in the right leg. Two bed sores had formed, one of which was healed and the other healing. She was able to sit up in a chair and to move herself in bed. There is still incontinence of urine and fæces.

On the Growth-rate of the Bones of the Lower Extremities, with especial reference to ricketty curvatures.—In the *Journal of Anatomy and Physiology* for October Mr. Walter Pye has a paper on this subject based on observations and measurements made at a children's hospital during the past five years. Attention is directed to four points.

1. To estimate the average growth-rate of the thigh and leg bones during childhood, taking childhood to run from the second to the eighth year inclusive.

2. To contrast these rates with those obtained by measurement of limbs which are the subjects of ricketty curvatures.

3. To estimate the effects of these curvatures upon their apparent and real growth during and after the development of the curves.

4. To estimate in these cases the value of the growth of the bones of the thigh and leg as making for recovery of the natural straightness of the limb.

In order to obtain accurate measurements Mr. Pye places the patient on a board ruled into rectangular squares of two inches, so that the child lies "fair and square each time it is measured," and a small tattoo mark is made over the bony prominences from which measurements are taken. By adopting these precautions it is said that measurements may be made to $\frac{1}{16}$ of an inch.

From several tables showing the height and growth-rate of a large number of children between the ages of two and eight the following conclusions are drawn.

"That the most rapid increase in height takes place during the first five years, and is about the same in boys and girls, and that for the next four years or so boys grow somewhat faster than girls."

"The period of greatest increase is in the first year, when it averages $7\frac{3}{4}$ inches; next in the second, about 4 inches; and thenceforward gradually declines to about $1\frac{3}{4}$ inches at the twelfth year (with frequent exceptions)."

With regard to the proportion of these increments which

should be assigned to the growth of the lower extremities, it is stated that during the whole period of growth the lower extremities become five times their original length; while in the same time the head and neck only double their length, and the trunk only trebles it. (From the 1883 "Report of the Anthropometric Committee of the British Medical Association.")

"It is in the early years of life that by far the greatest thigh and leg growth occurs; by the end of the third year the lower extremities have already doubled their original length (the thigh now, as always, having grown a little more than the leg); the twelfth year is reached before they quadruple it; and the remaining years are required to complete the quintuple growth."

This rapid growth in early life is important to note, and by the monthly measurement of fourteen children during the second year of life it was found that the thigh increased 1'40-in. and the leg 1'20-in.

Mr. Pye has compared these measurements with those obtained from children whose bones were curved by rickets, and he believes that, except in very severe cases, there is no actual arrest of growth in the bones, but that the apparent diminution in length is due to the fact of the curvature. He also points out that the improvement obtained as soon as their legs are relieved from the weight of their bodies, whether by splints or otherwise, is due rather to the very rapid growth of the lower extremities at this age than to any moulding or coercive power which mechanical appliances can exercise.

Fractures of the Lower End of the Humerus.—Charles A. Powers, M.D. (*Medical Journal*, Dec. 22, 1888).—Dr. Powers' paper, based on notes of fifty cases of this injury treated by him at the Chalmers Street Hospital, New York, is well worth perusal. We must all agree with him in regarding this form of lesion as one entailing considerable anxiety as to the result of any given case; the importance of the theme, rather than "the presentation of new methods of treatment" is his apology for bringing it forward.

After detailing a number of cases he offers a few general remarks. From a diagnostic point of view little attention is paid to the nature of the injury, most of the cases being caused by a "fall on the elbow." The importance of making a correct diagnosis at once is insisted on, and in all doubtful cases an anæsthetic should be administered. "Bony crepitus and abnormal mobility" are regarded as the essential features of fracture. "Disability, local pain and tenderness, ecchymosis and swelling are common to contusion; and sprains as well as fractures, though present, as a rule, to a greater degree in the latter."

As regards the question of passive motion, Dr. Powers is strongly of opinion that early movement is injurious, and he points to the results of his cases in support of his view, that it is better to keep the joint at rest for at least a month. For example, he records twelve cases of fracture through the internal condyle entering the joint, the line of treatment being a plaster splint applied at once and kept on for four or five weeks without passive motion, this being done in children or adults. The author "knows of no dressing under which the effusion will so rapidly subside," and in addition to exerting an equable pressure it keeps the parts absolutely at rest. On the removal of the splint passive motion is used and the joint carefully rubbed every day so long as there is any stiffness. It is pointed out that early movement favours displacement, and causes an excessive deposit of callus, which acts as a mechanical impediment to flexion and extension.

Note on Pulpý Synovitis, by Mr. C. H. Golding-Bird (*Illustrated Medical News*, Jan. 12, 1889).—The case of a boy aged 12 is quoted who developed pyæmic symptoms after excision of the hip. The left knee suppurated and was laid open shortly before death; the duration of the affection of this joint was from four to six weeks. This case is reported by Mr. Golding-Bird to illustrate the true meaning of the term "pulpý" when used to express the thickening of synovial membrane; a term he regards as a most unfortunate one, as "it seems to convey to

the minds of many something special, something affecting a joint which has a special significance, and is rather allied to tumour than to a nutritive or inflammatory process." In the case under consideration "there was nothing to suggest the presence of tubercle, nor was any found after death. Injury was presumably the prime cause of his trouble, and the outcome of a typical pyæmia. Yet the joint shows a macroscopic condition not inconsistent with a tuberculous etiology. Looking at such a joint it would be impossible to say, without microscopic examination (or at least full history), whether or not it might be tuberculous; the same macroscopic appearances would be seen were all this change accompanied by tuberculous deposit, and *pulpy* thickening is often regarded as evidence of the presence of tubercle, but not rightly so." This "pulpy" matter is spoken of as physiological rather than pathological, being the direct outcome in joints of the cell proliferation that results from irritation of the endothelial lining. Its presence is an evidence of an attempt at repair, and not of disorganisation. "It is identical in structure with granulation tissue from a healthy ulcer, where it must be regarded as a stage in nutrition, as a tissue of temporary character, filling up losses by accident or disease, and being eventually transformed into fibrous or cicatricial tissue. As also an ulcer-granulating surface may become unhealthy, discharging excess of pus, etc., so may the fungating synovial membrane, and the joint suppurates and disorganises in consequence. It becomes, in fact, an unhealthy ulcer *turned outside in*." It is pointed out that "irritation from different septic matters may cause synovitis with thickening, and the presence of tubercle in the tissue formed is not essential, but of the nature of accident." In children pulpy changes in the synovial membrane secondary to osteitis of the epiphyses are almost invariably tubercular. "But this generalisation cannot be applied to pulpy disease starting in the synovial membrane of children."

An important practical point is seen from this close relation of granulation tissue to pulpy material. When a healthy ulcer shows a tendency to fungate rather than cicatrise, slight scraping

or the application of caustic is sufficient to cause it to heal; for being an "embryonic" tissue it is more influenced by such means than the more resisting permanent tissues.

So the scraping of pulpy matter from joints in which the disease has not originated in the deeper part of the epiphyses, and where the cartilage changes have not been deep, may be followed by good results.

OBSTETRICS.

BY A. HARVEY, M.B.

A Case of Obliquely Contracted Pelvis resulting from an unreduced Dislocation of the Hip.—Braun (*Wiener Klin. Wochenschrift*, No. 27, 1888) reports a case where an unreduced dislocation of the right hip, dating from childhood, had resulted in a contraction of the pelvis in the right oblique diameter, which measured only 3.9 inches. Delivery was effected by combined version with recovery both of mother and child.

Fracture of the Pubic Symphysis during Labour.—Dr. Faux (*Arch. de Gyn.*, Oct., 1888) describes a case of this accident occurring in a primipara aged 25. There was a slight contraction of the outlet and the forceps were applied after labour had been in progress over forty-three hours. When the head reached the perineum a sound of cracking was heard, and again as it was born; but the fracture was not detected till the next day. The patient made an uninterrupted recovery.

Antipyrin in Obstetrics.—Auvard and Lefebvre (*Arch. de Tocologie*, Nov., 1888).—It seems that, as in the case of cocaine, the therapeutics of antipyrin are not to be considered complete without a trial of its effects in parturition, and MM. Auvard and Lefebvre have been making experiments with this drug, administered hypodermically, with a view to testing its value as an anodyne in labour, with the following results:—(1) That in

certain peculiarly impressionable women the administration of antipyrin seemed to produce a real, but generally slight alleviation of pain (possibly due to the moral effect of the hypodermic syringe); (2) that in the majority of cases the action is *nil*; and (3) that, without denying that good results may occur from this drug, its beneficial effects upon labour pains are inconstant, and it cannot be compared to chloroform or chloral as an anodyne during labour.

Manual Reduction of Mento-posterior Positions of Face Presentation.—Dr. Loviot (*Bulletin de la Société Obstétricale de Paris*, Dec., 1888) recommends the introduction of the hand within the uterus, not only in those cases of occipito-posterior positions when rotation does not occur, but also in similar cases of mento-posterior positions in face presentation, in order to dislodge the chin, or occiput as the case may be, and draw it forward toward the symphysis. He advises the use of the right hand if the head or face occupy the left oblique diameter, otherwise the left. Unless there is any other indication for the use of the forceps the case is then to be left to nature; if forceps are to be used, the first blade is to be applied before the removal of the hand.

The Kyphotic Pelvis.—Budin points out (*Progrès Médical*, 15th Dec., 1888) that in the kyphotic pelvis the obstruction is not always at the pelvic outlet and due to narrowing of the transverse diameter, but may be due to an approximation of the sciatic spines. He advises that not only should the diameter between the tuberosities be measured, but also that between the spines; a proceeding which is by no means easy.

The Bladder and Pregnancy.—According to Dr. Auvard (*Arch. de Soc.*, Oct., 1888), the bladder occupies during the first six months of pregnancy a position entirely within the pelvic cavity. During the last three months it may occupy one of three positions:—(1) Flattened from before backward, depressed in the middle above and expanded toward the sides, it has a crescentic shape; (2) it is sometimes divided into two pouches, the one in the pelvis the other above the pubes, the

two being connected by a short, narrow, flattened portion ; (3) it is occasionally found entirely dragged up above the pubes, having the shape of a horn.

During labour the bladder occupies the cavity of the pelvis until the foetal head engage there ; then it takes one of the three above-mentioned positions. After delivery it gradually resumes its ordinary relation to the uterus, which it sometimes deflects to the left, sometimes to the right ; more often to the left.

The Pathology of Intra-uterine Death.—Simpson (*Brit. Med. Jour.*, Oct., 1888) divides the causes of intra-uterine death into foetal, maternal, and placental ; the foetal being the zymotic diseases or pyrexia, syphilis or other chronic disease, and accident, as direct violence or strangulation with the cord. The maternal causes are zymotic diseases, acute diseases profoundly affecting the organism, and uterine displacements and inflammations. The placental causes are most frequent and important, those which most commonly affect foetal life being neoplastic, as myxoma, and nutritional changes in the vessels, parenchyma and epithelial investment, usually caused by syphilis. The placenta may undergo inflammatory, hypertrophic and degenerative changes. Apoplexy of the placenta, which often accompanies nephritis, may also cause intra-uterine death.

The Modern Caesarian Operation.—Caruso has brought up the statistics of this operation to October, 1888, and finds that out of 135 operations there have been 74·44 per cent. of recoveries among mothers, and 91·73 per cent. among children. His conclusion is that the operation is to be preferred not only to craniotomy, but also to the induction of premature labour with its infantile mortality of 39 per cent. For the success of the operation he demands (1) that it shall be done before the patient's strength has become exhausted, and that she be free from infection ; (2) that the foetal heart-sounds be strong and regular ; (3) strict antisepsis, competent assistants, and a full understanding of the operation both by operator and assistants.

REPORTS OF SOCIETIES.

BRITISH MEDICAL ASSOCIATION.

BIRMINGHAM AND MIDLAND COUNTIES BRANCH.

PATHOLOGICAL AND CLINICAL SECTION.

The second ordinary meeting was held in the Medical Institute on Friday, Nov. 30th, Dr. SAVAGE in the chair.

Paralytic Dementia.—Dr. Suckling shewed a case of general paralytic dementia. There was marked tremor of the muscles of the face and tongue. Speech was indistinct, and the patient was in a well-marked condition of dementia.

Ovarian Cyst.—Dr. Malins shewed a specimen of ovarian cyst, also one of parovarian cyst.

Pseudo-Hypertrophic Paralysis.—Dr. Roberts shewed a case of pseudo-hypertrophic paralysis. The patient was a boy aged nine, with well-marked hypertrophy of the calves, muscles of the thighs, deltoids, &c. He was unable to walk until three years old; weakness was noticed twelve months ago. His younger brother, aged five, also exhibited well-marked signs of the disease.

Plastic Operations.—Mr. Eales shewed (1) a child, aged thirteen, in whom the whole skin of the right upper eyelid, from the cilia to the eyebrow, destroyed by a burn nine years previously, had been successfully replaced by means of some fifty skin-grafts. Before operation, the eyelashes were drawn up to, and incorporated more or less with, the hairs of the eyebrow, and the whole lid was everted; but the result was a veritable new lid, and a very good one, with the cilia in their proper position at the free border. (2) A man, aged 52, from whom he had removed an epithelioma situated just below the punctum of the right lower lid, covering the exposed area by means of skin flaps. (3) A woman, aged 61, from whom he had excised

a rodent ulcer situated at the junction of the nose and left eye-brow, covering the exposed area by skin-flaps, as in the former case.

Congenital Heart Disease.—Dr. Rickards shewed a specimen of congenital disease of the heart, with ulcerative endocarditis. The discussion on this communication was adjourned until the January meeting.

Nævus of Tongue.—Mr. Barling shewed a specimen of nævus of the tongue with macro-glossia. This specimen was removed from an infant seven weeks old on account of the deformity it produced, and for repeated hæmorrhages which were induced by the child sucking the organ. An attempt had been made to consolidate the nævus by electrolysis, but with only slight success. At the operation, the tongue was slit down the raphe to a little beyond its middle; a ligature, buried in the substance of the tongue, was then tied round the right half and the diseased part removed with scissors; it was of the size of an ordinary walnut. The child made a good recovery.

Adenoma of Soft Palate.—Mr. Barling also shewed a specimen of adenoma of the soft palate. This specimen was removed from a woman aged 56, in whom the tumour had been growing for some weeks, and as it was believed to be a sarcoma, the soft palate was slit down the middle and the right half was completely removed. It was then found that the growth was between the mucous membrane and the upper surface of the levator palati, that it was completely encapsuled, and that it was three quarters of an inch in diameter. Before excision the palate appeared to be infiltrated by growth, with the mucous membrane fixed over it.

Cancer of Liver.—Dr. Hogben shewed a liver which was the subject of secondary cancer from scirrhus of the pancreas. The coats of the gall-bladder were involved, numerous gallstones were found in its interior, and the liver itself exhibited numerous nodules of the scirrho-encephaloid variety.

Dr. Hogben also exhibited a liver from an aged patient the subject of carcinoma. In this case the gall-bladder had

completely disappeared, having been apparently absorbed by the cancerous mass. Several cancerous nodules were diffused throughout the liver substance.

BRANCH MEETING.

Thursday, January 10th, 1889, Dr. T. W. THURSFIELD, President, in the chair.

The following member of the Association was elected a member of the Branch:—Samuel J. Noake, M.R.C.S., L.R.C.P., Aston.

Ligature of the External Iliac Artery.—Mr. Bennett May shewed a patient (male) on whom he had tied the external iliac twelve weeks previously for a very large femoral aneurism. He had used McFarlane's improved chromic gut, which is estimated to last three weeks before it becomes softened and absorbed. The wound had healed by first intention, the aneurism having nearly disappeared. Mr. May was of opinion that the cause was continuous strain, the patient being a temperate man, with no history of syphilis.

Arthrectomy.—Mr. Jordan Lloyd shewed a woman, 27 years old, upon whom he had performed arthrectomy for chronic tubercular disease of the knee joint. The ordinary measures had been adopted for nearly three years without the joint in any way improving. The operation was performed seven months ago, large foci of caseous bone being cut away. The wound healed soundly in two or three weeks, the limb is now in excellent position, the joint is firmly ankylosed, and the patient can walk several miles without using a support of any kind.

Cerebral Localisation.—As an instance of accurate localisation of cerebral lesions, Mr. Morrison shewed the skull cap of a man who had been in the General Hospital in 1886 suffering from Jacksonian epilepsy and other cerebral symptoms. Mr. Bartleet trephined and removed some blood clot, finding the

brain in the neighbourhood in an inflamed condition. The man died three days later from cerebritis.

Mr. Morrison read a paper "On the Localization of Intracranial Lesions."

The postponed discussion on Mr. Jordan Lloyd's paper on Brain Surgery then took place.

Mr. Barling drew attention to the difficulty, not only of differentiating glioma from other tumours of the brain, but of knowing what was glioma and what was normal brain substance, during the operation for its removal.

Mr. Bennett May, in referring to McEwen's cases, said it was not to be expected that any one would again have such a series of successful cases (20 out of 23) as he had recorded. He gave an outline of six cases of his own where he had operated.

Mr Vose Solomon, Dr. Suckling, and Dr. Lycett joined in the discussion.

Mr. Lloyd, in reply, referred to a case recently under his care, where a large abscess in the temporo-sphenoidal and inferior parietal lobes was attended by moral disturbances as its only symptom.

REVIEWS.

HOLMES' SURGERY.*

THE appearance of a new edition of a popular surgical text book from a fresh editor is a somewhat important event. This is unusually so with "Holmes' Surgery," which, unless much improved, would soon have disappeared before its more reliable competitors. With the exception of the chapter on diseases of the eye, the general arrangement of the book is practically

* Holmes' Surgery: Its Principles and Practice. Edited by T. Pickering Pick. Fifth edition. London: Smith, Elder and Co.

unaltered, but the quality of the material is much changed for the better, so that we think the editor may on the whole congratulate himself on the success of his efforts. An apology is made for omitting altogether diseases of the eye. We believe that this omission is a wise one, for the chapter in previous editions was very incomplete, and students have no lack of suitable manuals on ophthalmic surgery; whilst in the present edition the space thus saved has been allotted to subjects which badly needed expansion. There are some defects to which we propose to draw attention, many of them susceptible of improvement by slight alterations in the text, though others are not so easily erased.

In describing the treatment of intra-peritoneal rupture of the bladder, too little stress is laid upon the details of the bladder suture, the most important part of the whole operation; Lembert's suture is not mentioned, nor the likelihood of leakage at the angles of the wound, unless carefully provided against.

The chapter on tumours has a few points needing amendment. Under cysts of new formation one of those cystic sarcomas is described in which the solid growth forms only a small part of the tumour; surely this would be better placed with the ordinary sarcomas to which it is closely related, histologically and clinically. Glioma, too, should not be grouped with the sarcomas as it is a growth of adult connective tissue, and does not disseminate. The term "adenoid tissue," as an alias for the small celled infiltration at the edge of a sarcoma is an unfortunate substitution. The multiplication of these vague terms is one of the reasons why students find such difficulty in understanding tumours.

The radical cures for hernia receive due attention, with the exception of the method devised by McEwen, which is not mentioned, though it is certainly of greater merit than some of those discussed. Perhaps the worst fault in the book is the description of strangulated umbilical hernia and the operation for its relief. No wonder these cases do badly if surgeons are

of the same mind as Mr. Pick concerning them. He says:—"The amount of pain and fever (in other words the acuteness of the symptoms) is the test of the necessity for an operation." We may remark that the most acute pain is often suffered by patients whose herniæ are distended and obstructed from eating indigestible food and who generally obtain relief from large enemas, whilst fever may be absent and even the temperature be subnormal in the most severe cases of strangulation. At the operation "the tumour is to be freely laid open in the vertical direction, and the contained bowel and omentum unravelled." No mention is made of either of the modern operations—(1) by incision at the upper margin of the tumour and division of the ring without opening the sac, or (2) by a small incision of the abdomen in the middle line above the hernia and the relief of the stricture from within the abdomen. Either of these methods compares most favourably in its results with the old operation advocated here.

Under the treatment of hæmorrhoids we note that nothing is said as to the plan of injecting carbolic acid.

The symptoms of tumour of the bladder are said to be irritability of the bladder and hæmaturia, whereas the latter is by far the commonest and most important symptom, and should receive due prominence. Again, at p. 774, "From calculus, tumour may be distinguished by the less abundant hæmorrhage and the less amount of pain and irritation of the bladder, and by the passage of a sound failing to detect a stone." The only interpretation to be placed on this passage is that bleeding is worse from stone than from tumour; surely this is a mistake.

Whilst describing the manner in which these growths are diagnosed not a word is said as to the most efficient means by which this may be effected, viz., by the use of the electric cystoscope.

The description of ovariectomy is anything but satisfactory. Modern operators do not make an incision extending from "a little below the umbilicus to the pubes," nor do they "insert the fore and middle fingers and sweep round the tumour to

ascertain that they are in the peritoneal cavity." Space might have been saved by omitting to mention the clamp or ecraseur as a means of securing the pedicle, and Keith's name might have been connected with the glass drainage tube instead of that of Sir Spencer Wells. Not a word is said as to the treatment of peritonitis after these operations by the method introduced by Mr. Lawson Tait.

Most of the illustrations are good, but a notable exception is No. 163 section of a myxoma

The influence of this book upon the education of students and Mr. Pick's position as a Member of Council and an Examiner at the College of Surgeons demand for his work close criticism, we have therefore felt it necessary to draw attention to some of its defects, though, at the same time, we acknowledge the general excellence of the text.

Letter to the Editor.

DURATION OF INCUBATION AND CONTAGIOUSNESS.

Sir,—Ten years ago the Clinical Society of London appointed a Committee to investigate the periods of incubation and of contagiousness of the commoner communicable diseases.

A certain amount of valuable material was received, but it was thought desirable to defer the presentation of a report until further experience was available. The Society has now determined to gather additional information with a view to the preparation of an early report on the subject, and for this purpose has reconstituted the Committee.

The Committee is desirous of obtaining particulars of cases which throw light upon the periods of incubation and contagiousness of the below-mentioned diseases, and will be grateful for notes of any cases where the facts can be ascertained with sufficient precision to afford grounds for conclusions.

It is thought that gentlemen practising at a distance from large centres of population, and especially those engaged in the Public Health Service, or associated with schools, would be able to supply information of the kind required. A single case in which the dates of exposure to infection and the appearance of the first symptom can be accurately fixed, especially where the exposure has been limited in duration, would be highly valued.

The following diseases are included within the scope of the inquiry :

Variola	Typhus	Cholera
Varicella	Relapsing Fever	Erysipelas
Measles	Whooping-cough	Mumps
German Measles	Diphtheria	Infectious Sore
Scarlet Fever	Enteric Fever	Throat.

The Committee consists of Dr. W. H. Broadbent, Dr. George Buchanan, Dr. Cayley, Dr. Thomas Barlow, Dr. Alfred Hill, Dr. Isambard Owen, Dr. Thorne Thorne, Dr. Alder Smith, and Mr. R. W. Parker with Mr. Shirley Murphy, 41, Queen Anne Street, and Dr. Dawson Williams, 25, Old Burlington Street, W., as Honorary Secretaries, to one of whom communications should be addressed.

I am, etc.,

W. H. BROADBENT,

Clinical Society of London,
January, 1888.

Chairman of Committee.

NEW INVENTIONS, DRUGS, ETC.

VAPOROLAS.—Messrs. Burroughs, Wellcome and Co. have sent us samples of their "Vaporoles." These consist of friable glass capsules, containing the usual drugs employed for inhalation and fumigation, the capsules being ensheathed in concentric layers of Lawton's Absorbent Cotton, and the whole enclosed in

a beautiful silken sac. When the "Vaporole" is required for use, it is only necessary to strike it smartly with anything hard to liberate the enclosed liquid. Sufficient absorbent material is employed in the sheath of the capsule to retain the liquid. For inhalation, the crushed "Vaporole" can be dropped into the water-bottle of the Vereker Chloride of Ammonium Inhaler or into a steam atomizer. For fumigation, the crushed "Vaporole" may be placed on a hot plate until the fumes have thoroughly impregnated the atmosphere of the room; or, in the case of Pinol, a crushed "Vaporole" may be pinned to a curtain until it has disseminated its piny fragrance throughout the room.

MESSRS. PHILIP HARRIS & CO'S. ANTIDOTE BAG.—Accidental or suicidal poisoning is one of the most urgent and most tragic of the accidents a medical man is called upon to treat. Such cases are too rare out of hospital for anyone to be *accustomed* to them. Too often the practitioner is quite unprepared to deal adequately with them, and lives are lost from this want of preparation. Messrs. Philip Harris and Co. have prepared a bag which contains all the necessary antidotes, with stomach tube, hypodermic syringe, enema apparatus, etc.; and above all a concise and clearly written pamphlet giving directions for the treatment of the various poisons. With this bag the practitioner is *semper paratus*, as he ought to be, against a most trying class of emergency, and we strongly recommend its adoption.

BURROUGHS, WELLCOME & CO.'S POCKET BOOK DIARIES.—The publishers announce that they have received late from the printers 2,000 copies of these diaries, and that they are willing to sell them for 1/- each, post free, to any medical man applying for them. The ordinary price is 2/- and from an inspection we have made of one submitted to us they are very cheap at that price. We would advise our readers who have not already provided themselves with visiting lists for this year to avail themselves of Messrs. Burroughs, Wellcome & Co.'s offer.

THE ALBUCAR SANITARY PAPER.—This is by far the best paper of this sort which we have seen. It is supplied in rolls or packets, and should be universally adopted.

THE BIRMINGHAM AND MIDLAND COUNTIES ORTHOPÆDIC AND SPINAL HOSPITAL.—Established 1817.—*President*: The Most Honourable the Marquess of Hertford.—Her Most Gracious Majesty the Queen having generously contributed the sum of fifty guineas towards the funds, has further commanded that for the future the hospital shall be called the ROYAL ORTHOPÆDIC AND SPINAL HOSPITAL, BIRMINGHAM.

Literary Notes.

THE *Journal de Médecine de Paris* makes its appearance this year in an enlarged form, and seeks to take its place as a regular weekly medical newspaper. Up to the present it has been chiefly a compendium of abstracts. It is edited by Dr. Lutaud who has distinguished himself by the vivacity with which he has criticised Pasteur's anti-rabic methods. In fact it is greatly due to Dr. Lutaud that facts adverse to that system have been brought to light. This is not popular in Paris, where every good Frenchman believes in Pasteur.

WE have received a number of a new American medical journal called the *International Journal of Surgery and Antiseptics*. Its cover is decorated by a very unflattering portrait of Sir Joseph Lister surrounded by saws, forceps, bandages and other implements of the craft. The American medical press literally teems with medical periodicals good, bad and indifferent. This latest production would occupy just about the middle of that classification.

Miscellany.

A CHEAPLY-EARNED REPUTATION.—A country surgeon, who not long since went where patients do not trouble and even doctors are at rest, had the good fortune early in life to perform a successful lithotomy. Without risking his reputation by a second attempt, he kept the stone for the remainder of his life in his breeches pocket, where it lay ready to hand for the edification of any new patient or acquaintance, as a mute but permanent testimony to his surgical abilities. On this slender basis he managed to found a considerable popular reputation as a daring and successful operator amongst the country people, who have almost a superstitious reverence for the mysteries of surgery when it deals effectually with the "inward parts." We should not grudge it to him. Perhaps many of us owe a good part of what reputation we possess to even less definite performances than his.

MARK TWAIN AND THE TOOTH-POWDER.—Not long ago Mark Twain was travelling in the country, and stopped at a house presided over by an elderly woman. He was shown to a room somewhat bare of ornament and furniture, yet slept peacefully until next morning. When morning came and he awoke, he became mindful of the fact that although he had provided himself with a tooth-brush he had forgotten his tooth-powder. He consoled himself with the thought that there must be tooth-powder lying about. After a brief search he discovered something in a small box on the mantel-piece which certainly resembled tooth-powder. At any rate he used it vigorously on his teeth, and found it satisfactory. When he got downstairs he apologised to his hostess for using her tooth-powder. She appeared surprised. "What tooth powder?" she inquired blandly. "It was on the mantel," Mark replied. "On the mantel?" she repeated. "Yes, in a small box; it was excellent," he declared. "Good gracious!" she ejaculated; "that wasn't tooth-powder." "What was it?" asked Mark, now slightly alarmed. "Why, that was auntie," said she. It seems that "auntie" was cremated.

New Books, etc., Received.

The Year Book of Treatment for 1889. London, New York and Melbourne: Cassell and Company Limited.

The Life Register. London: West, Newman & Co. 1888.

A Text Book of Human Physiology. By AUSTIN FLINT, M.D., LL.D., Fourth Edition, entirely rewritten. London: H. K. Lewis. 1888.

Massotherapy; or, Massage as a Mode of Treatment. By WILLIAM MURRELL, M.D., F.R.C.P. London: H. K. Lewis. 1889.

The Causation of Disease and Exposition of the Ultimate Factors which induce it. By HARRY CAMPBELL, M.D., B.S. Lond. London: H. K. Lewis. 1889.

Epitome of Surgery: being a complete Compendium of the Science and Art of Surgery. By RIDLEY DALE, M.D., M.R.C.S.E. London: H. K. Lewis. 1889.

NOTICE.—*All Communications should be addressed to the Publishers, Messrs. Hall and English, 71, High Street, Birmingham.*

THE
BIRMINGHAM MEDICAL REVIEW.

MARCH, 1889.

ORIGINAL COMMUNICATIONS.

UTERINE MYOMA.

BY LAWSON TAIT, F.R.C.S.,
PROFESSOR OF GYNÆCOLOGY IN QUEEN'S COLLEGE, BIRMINGHAM.

(Continued from p. 29.)

The idea of the removal of the uterine appendages for the treatment of uterine myoma occurred to me after the death of two enucleation cases in one week in the year 1871. I was horrified at the catastrophe, and as I witnessed the *post-mortem* of one of the cases I was struck by the exaggerated size of the tubes and ovaries. This association of diseased conditions of the appendages with myoma has been a frequent experience ever since, and I think there is some relation, as cause and effect, between the two conditions. It struck me as being so at the time I speak of, and remembering that in a case where I had performed double ovariectomy some months before in a woman blanched by uterine hæmorrhage, I had secured the gratifying result of completely arresting that symptom; it struck me that I might apply that experience to bleeding uterine tumours. I had no opportunity of putting my idea into practice until July 27th, 1872. That woman was cured, but not

immediately, as I fancy I did not do the operation as I do now, but she had complete arrest of the hæmorrhage in a few months, and is still alive and well.

Since then and up to the end of 1888, I have performed the operation 272 times with 12 deaths* giving an average mortality of 4.41 per cent. In my first series the mortality was 7 per cent. as against 2.03 per cent. in my second series, and if I could secure that all my cases reached me before they were half dead from mere anæmia, I think the mortality would not be more than one per cent. The whole of my experience in every department of abdominal surgery is one continuous outcry against delay.

On May 24th, 1881, I read a paper on my first thirty cases of the operation before the Royal Medical and Chirurgical Society, but my statements only provoked incredulity, and that conservative body did not even think it worth while to publish my paper. I received their formal thanks without emotion, and sent my paper to America, where it was published in the *American Journal of Medical Sciences*, January, 1882, and in the *New World* it at once received the attention which I knew the facts merited. I can now speak calmly of the action of the London Society, but I felt very bitterly about it at the time.

In a paper read at the Cardiff meeting of the British Medical Association in 1885 (*British Medical Journal*, August, 1885), I published in detail the secondary results of my first fifty cases of this operation in which recovery had taken place. In all of them a period of more than two years and a half had passed since the operation, so that there was an interval between the treatment of each case and the report of it quite long enough to give a satisfactory statement of the secondary result. The first point in that paper was to show that removal of the uterine appendages for myoma, when properly performed, is not a fatal operation, but one, indeed, with hardly any mortality at all, even when the

* General Summary of Conclusions from a Series of one thousand consecutive cases of Abdominal Section, 1884. Ditto, Second Series of one thousand, *British Medical Journal*, 1888.

tumours are large and the patients are brought almost to death's door by excessive hæmorrhage. I therefore gave a list of fifty-eight cases in which I had operated between the 1st January, 1884, and the 21st July, 1885, without a single death; and I selected that period not because I had experienced a heavy mortality before that, but because it was the latest date up to which my practice had been published in detail. In the series published up to the end of 1883, there were fifty cases of the removal of the uterine appendages for myoma, with two deaths, so that up to August, 1885, there was a series of 108 cases with two deaths. Since then, from July 21st, 1885, up to the present date I have had 154 cases, with only two deaths, so that the mortality of the operation in my hands up to the present moment of publication, exclusive of the earliest work, which in no way represents the *mortality of the operation*, gives ONLY 1·53 PER CENT. Adverse critics have been delighted to rake up my early cases, in which, with less than a score of cases, the mortality was nearly twenty-five per cent.; but I need not say that, as I originated this proceeding, I have had to bear the burden of the blunders inseparable from ignorance—blunders which have helped me not only to mend my own ways, but also to mend the ways of those who came after me, and who have forgotten to credit me with the better results which my misfortunes provided for them.

Let me say here, in relation to statistical investigation of this kind, what I have often had to say upon other and similar occasions—that as early experience must always have unfavourable results, it is perfectly absurd to put a collection of cases derived from the early experience of a large number of operators as giving the mortality of any operation; such a collection is only the mortality of inexperienced operators. The true mortality of the operation can only be arrived at from the operations performed by the best operator or operators, and even in the case of experienced operators their early instances must be excluded from the true mortality of the operation. All this

must be derived from an operator like myself, who has done some hundreds of cases, who has reduced the mortality to the lowest point, and from whose statistics the early blundering must be excluded. In no other way can the proper estimate of the value of the operation be derived. In the paper of which I am speaking, read before the British Medical Association at Cardiff, I gave a list of fifty cases of this operation where recovery had taken place, and I gave a detailed statement of the ultimate results, as far as I was able to obtain them. For the statements concerning a few of the cases I was solely responsible, as they are drawn from personal interviews with the patients; but in every instance where it was possible, the statements were made on the evidence of a practitioner who sent the patient to me for operation, or was associated with me in the responsibility of the case, or under whose cognisance she has been since the operation. The proof of the satisfactory secondary result was in the highest degree satisfactory, and it affected a series of cases, the earliest of which was nearly thirteen years old, and the latest two and a half. Of the fifty cases, we have failure in only two instances, the details of one of which I had previously already published. It was a case of cancer of the body of the uterus, which I had mistaken for a myoma, or a myoma which became cancerous after the operation. Neither of these alternative suppositions, in the least, can now form an argument against my operation; mistaking malignant for non-malignant tumours is constantly occurring in every department of surgery, and I cannot expect to be free from it. In the second case, menstruation had not been arrested, and the tumour has gone on growing.

To continue the subject of the paper already quoted, I have to tell that two of the patients of my list of fifty were admitted to asylums soon after the operation, but in one case insanity had been quite evident before the removal of the uterine appendages; and in the other it showed itself almost as soon as she was out of the anæsthetic, so that the indirect effects of the

operation can hardly be credited with this unsatisfactory result. Indeed, this patient has been carefully watched in a private asylum ever since, and we have become perfectly satisfied that it is one of the instances of anæsthetic insanity concerning which Dr. Savage, of Bethlem Hospital, has written an interesting paper, and one upon which I shall have something further to say later.

Even if the insanity in these two cases had to be attributed to the operation, I am in a position to set off two cases against them in which pronounced symptoms of mental aberration were completely cured as a direct result of the operation.

In the paper of which I have already spoken as having been presented to the Royal Medical and Chirurgical Society of London, and by them refused publication, and then published in the *American Quarterly Journal of Medical Sciences* for January, 1882, I summarised my conclusions upon several points. The first of these was as follows:—"That, as far as its primary results are concerned, removal of the uterine appendages, for the arrest of intractable uterine hæmorrhage, is an operation which is as easily justified as any of the major operations of surgery." I can now emphasize this conclusion thoroughly, and extend it. I say that the primary mortality of this operation is so low that it can be justified far more decidedly on that score than any other of the serious operations of surgery.

The second conclusion was to the effect—"That, so far as its secondary results are yet seen, it is an operation which yields abundant encouragement for its further trial." Here, again, the experience of eight years' longer interval enables me to speak far more decidedly than I did at first. The secondary results of this operation are as brilliant as those of any other operation in the whole realm of surgery with which I am acquainted. It saves life and relieves suffering quite as emphatically as the removal of ovarian tumours. Of the fifty cases of which I then gave the

secondary results, I could only point to two failures ; but even in these a considerable amount of relief was obtained. The second of the two (Case xxv.) was a complete failure, for the operation had only partially checked the hæmorrhage, and it had not in the least degree interfered with the progress of the tumour.

This case proved to have great interest, for this is the subsequent story that was told about it :—"The patient in question, aged 40, was placed under my care by Dr. Lycett, of Wolverhampton, in January, 1882. She had a large myoma, which caused persistent hæmorrhage. For its treatment I proposed removal of the uterine appendages, and proceeded with this operation on February 4th, 1882. I removed the left tube and ovary, as I thought at the time, completely, but the right tube and ovary could nowhere be found, although I extended my incision to the extreme length of seven inches and a half, and pulled the tumour right out of the abdomen. Still I could not find any trace of ovary or tube on the right side. I replaced the tumour, and the patient made an admirable recovery. But neither the growth of the tumour nor the recurrence of menstrual hæmorrhage were in the least degree affected by the operation. In March, 1884, she again came under my care, for the purpose of having the tumour removed. It had increased to nearly three times the size it was in 1882, and her condition was that of extreme debility and anæmia from hæmorrhage. I opened the abdomen in March, 1884, for the purpose of removing the tumour, but the hæmorrhage was so terrific from the adhesions that had to be separated, that I desisted, and closed the wound. The patient went home in about three weeks, with no other hope before her than that of a speedy death. She was one of thirteen cases of which I spoke at a meeting of the British Gynæcological Society, which were then known to me to be in process of death from bleeding myomata. The only remaining interest which I had in the case was the expectation of having a *post mortem* examination, to discover, if possible, why my original operation had failed.

One day early in August, 1885, I happened to be in Wolverhampton, and called to see how the patient was, and, to my surprise, found her still alive, and able to get about in a sort of fashion, the hæmorrhage still going on, and certainly no kind of improvement effected in her condition. The tumour had grown till it occupied the whole abdomen, and interfered very much with her breathing. The patient was extremely thin, and of a ghastly white colour. She is a woman of remarkable pluck, and when I suggested to her that, if she liked, I would try the operation of removal of the tumour once more, explaining to her that I would complete the operation, no matter at what cost, she yielded a ready assent. Therefore, again, on September 5th, 1885, I opened the abdomen, and this time succeeded in removing the tumour, which was somewhere about 40 lbs. in weight. The adhesions were chiefly in front, and the tumour itself proved to be, as I had all along suspected, one of the soft œdematous myomata, occupying the anterior wall of the uterus, the tumour lying quite in front of the cavity of the uterus, which measured 9 inches in length and $3\frac{1}{2}$ inches in width at the base. After the removal of the tumour about four quarts of serum exuded from it in the course of a few hours. The pedicle was broad, and easily secured by a clamp. The patient made a rapid and easy recovery. Very careful examinations of the tumour were made by several independent observers, and we came to the conclusion that there was no aperture on the right cornu of the uterus, and that there was no trace of right ovary or tube. The aperture on the left cornu of the uterus was large enough to admit a No. 5 catheter, and there was more than two inches of the left Fallopian tube outside, which had not been removed at the original operation. No trace could be discovered of the left ovary. This organ fortunately I had preserved, and when I examined the organ that had been removed on January 4th, 1882, I found that its removal had been complete, but that only about one inch of the outer end of the left Fallopian tube had been removed with it. Here, therefore, we had an extremely

curious condition. The appendages on the right side were congenitally absent, the failure of the removal of the uterine appendages to arrest the growth of this tumour had always been regarded by me as due to the fact that the tumour was one of the soft œdematous myomata, and I had alluded to the case more than once as being the only real failure in my experience up to the time of observation. Now, the evidence is that the failure of the operation was due not to the peculiar nature of the tumour, but to the fact that I did not completely remove the only Fallopian tube of which the woman was possessed.

Up to that time I had repeatedly spoken of three cases in my experience where I had failed to arrest the growth of uterine tumours by removal of the appendages, and in all three cases I had regarded the reason of my failure as being due to the nature of the tumour, that of soft œdematous myoma. Since then I have had three failures of a similar kind, and so far I have only had an opportunity in one of the cases of those of which I am now speaking, of verifying the accuracy of my opinion, and it is quite open to a difference of opinion as to whether my failure in this case was due to the incomplete operation or to the nature of the tumour. The three other cases yet await investigation, either by a second operation or by a *post mortem* examination, as to the real cause of failure. I may add that now (February, 1889) the patient whose case I have just given in detail is in perfect health.

Of the rest of the fifty cases previously narrated, four have died from other causes since the operation; but I know that forty-one still continue—now nearly six years since the date of the last of them—in perfect health, and in the majority of cases immediate arrest of menstruation has been secured by the operation. In seventeen cases I know that the tumours have entirely disappeared, and in fourteen they have been so materially diminished in size as to remain perfectly harmless.

My more recent experience has been still more favourable,

for my recoveries are now far more prompt and the arrest of hæmorrhage more immediate; and I feel perfectly justified in saying that in this operation we have one of the most valuable additions to surgery which has been made in recent years.

The details of the operation for the removal of the uterine appendages for myoma, as well as those of hysterectomy, will be considered in their appropriate order.

The following is a list of all the cases of uterine myoma in which I have removed the appendages since December, 1880, to the time of writing (February, 1889). I give it for the purpose of authenticating the conclusions I have arrived at, and of showing more of the method in which I view statistics. This collection of cases displays what we may reasonably regard as the true mortality of the operation up to the present time—a conclusion which certainly will never be arrived at by selecting groups of operations performed by a large number of different operators and massing them together. I may say that in the arrangement of these cases many occur which it is very difficult to place properly. Thus, in quite a large number of my operations, I have found double pyosalpinx as well as myoma, when the operation has been performed really with the intention of removing the appendages for the myoma, no opinion having been arrived at that there was pyosalpinx as well.

As I regard pyosalpinx as a much more serious disease than myoma, and removal of the appendages for the inflammatory condition a more serious undertaking than their removal for myoma, I have kept such complicated cases for the class which seems to me the one of greater severity. No such complicated cases, therefore, are recorded here; they will be found in another table under the heading of pyosalpinx or hydrosalpinx, as the case may be. Their removal, however, does not in the least degree affect the mortality of the operation for myoma, as will be seen in referring to the said tables.

No.	Residence.	Medical Attendant.	Age.	M or S	Date.	
					1880.	
1	Birmingham ...	Dr. Taylor ...	44	S	Dec. 18	R
					1881.	
2	Coventry... ..	Dr. Plowman ...	32	M	Jan. 13	R
3	Birmingham ...	Dr. Kenny ...	43	M	Feb. 12	R
4	Darlaston ...	Dr. Sutton ...	35	S	April 4	R
5	Droitwich ...	Dr. Cuthbertson ...	43	M	June 15	R
6	Birmingham ...	Mr. Hallwright ...	47	M	" 17	R
7	Ironbridge ...	Dr. Webb ...	38	S	Aug. 25	R
8	Birmingham ...	Dr. Kenny ...	43	S	" 27	R
9	Wolverhampton...	Dr. Pope ...	40	M	Sept. 19	R
10	Broseley ...	Dr. Bartlam ...	51	S	Oct. 4	R
					1882.	
11	Birmingham ...	Mr. Bracey ..	36	M	Jan. 4	R
12	Wolverhampton..	Dr. Lycett ...	40	M	" 4	R
13	Gloucester ...	Dr. Eshelby ..	37	S	" 10	R
14	Conway ...	Dr. Prichard ...	46	M	" 29	R
15	Llandudno ...	Dr. Nicol ...	45	M	Mar. 13	R
16	Birmingham ...	Dr. Gaunt ...	44	S	" 21	R
17	Birmingham ..	Mr. Fairley...	45	M	" 29	R
18	Wolverhampton...	Dr. Lycett ...	40	S	" 31	R
19	London ...	Dr. Louisa Atkins ..	33	M	April 11	R
20	Birmingham ...	Dr. Taylor ...	44	M	" 8	R
21	Dudley ...	L. T. ...	21	S	" 20	R
22	Oxford ...	Dr. Jones ...	46	S	" 27	R
23	Alfreton ...	Mr. Fielding ...	45	M	May 6	R
24	Southampton ...	Dr. Seaton ...	44	M	June 9	R
25	Leicester ...	Dr. Clifton ...	35	M	" 12	R
26	Droitwich ...	Dr. Spofforth ...	35	M	" 16	R
27	Chesterfield ...	Dr. Hale ...	44	M	" 27	R
28	Birmingham ...	Mr. Bracey...	45	M	July 13	R
29	Birmingham ...	Dr. Thomas ...	32	M	Sept. 9	R
30	Ludlow ...	Dr. Brooks ...	40	S	" 29	R
31	Rugby ...	Dr. Mackenzie ...	46	S	Oct. 20	R
32	Hay ...	Mr. Talfourd Jones	42	S	" 21	R
33	Bloxwich ...	Dr. Sharpe...	18	S	Nov. 16	R
34	Birmingham ..	Dr. Haynes ..	42	M	Dec. 18	R
					1883	
35	Kidderminster ..	Dr. Lees ...	44	M	Feb. 12	R
36	Evesham ...	Dr. Hyde ...	44	S	" 19	R
37	Daventry... ..	Mr. Forster ...	49	W	Mar. 16	R
38	Birmingham ...	Mr. Hoare ...	39	M	April 19	R
39	Leicester ...	Dr. Marriott ...	49	M	May 17	R
40	Birmingham ...	Dr. Madden ...	43	W	" 22	R
41	Stone ...	Dr. Tylecote ...	35	S	" 25	R
42	Monmouth ...	Dr. Woollett ...	45	M	July 2	R
43	Melton Mowbray	Mr. Emmerson ...	28	M	" 13	R
44	Rugeley ...	Dr. Monckton ...	45	M	" 19	R
45	Coventry ...	Dr. Davidson ...	44	M	" 28	R
46	Birmingham ...	L. T. ...	40	M	Sept. 29	R
47	Keswick ...	Dr. Knight ...	35	M	" 29	R
48	Durham ...	Mr. Stewart ...	39	M	Oct. 5	R
49	Leamington ...	Dr. Thurstfield	42	M	Dec. 8	R
50	Newport ...	Dr. Davies ...	40	M	" 11	R

No.	Residence.	Medical Attendant.	Age.	M. or S.	Date.	
1884.						
51	Darlaston ...	Dr. Totherick ...	30	M	Feb. 20	R
52	Monmouth ...	Dr. Marsh ...	38	M	" 21	R
53	Leicester ...	Dr. Clifton ...	34	S	" 29	R
54	Leeds ...	Dr. Hunter ...	47	M	Mar. 2	R
55	Birmingham ...	Dr. Ward ...	29	M	" 27	R
56	Birmingham ...	Dr. Wilson ...	37	M	" 28	R
57	Cannock ...	Mr. Blackford ...	33	S	April 5	R
58	Kidderminster ...	Mr. Holyoake ...	46	M	" 9	R
59	Kendal ...	Mr. Green ...	30	M	" 18	R
60	Wolverhampton ...	Dr. Underhill ...	40	M	" 22	R
61	Ripley ...	M ^r . Allen ...	42	M	" 23	R
62	Leamington ...	Dr. Smith ...	44	M	" 25	R
63	Leamington ...	Dr. Thursfield ...	40	M	" 26	R
64	Hereford ...	Mr. Vevers ...	40	M	May 16	R
65	Birmingham ...	Dr. Wilson ...	39	M	" 17	R
66	Newport, Mon. ...	Dr. Davies ...	44	M	" 30	R
67	Ross ...	Mr. Norman ...	44	M	June 3	R
68	Birmingham ...	L. T. ...	37	S	" 6	R
69	Bromyard ...	Mr. Horton ...	36	M	July 9	R
70	Nottingham ...	Mr. Euan Smith ...	46	M	" 10	R
71	Wolverhampton ...	Dr. Lycett ...	45	M	" 22	R
72	Sutton, Surrey ...	Mr. Benson ...	48	S	" 31	R
73	London ...	Dr. Armitage ...	44	S	Oct. 4	R
74	Llantrissant ...	Dr. Davies ...	46	M	" 15	R
75	Birmingham ...	L. T. ...	39	M	" 21	R
76	Coventry ...	Dr. Partridge ...	30	M	Nov. 3	R
77	Walsall ...	L. T. ...	42	M	" 10	R
78	Brighton ...	Dr. Bluett ...	35	S	" 12	R
79	Nottingham ...	Dr. Howitt ...	41	M	" 13	R
80	Manchester ...	Dr. Lee ...	38	M	" 17	R
81	Birmingham ...	L. T. ...	43	M	" 25	R
1885.						
82	Birmingham ...	L. T. ...	42	M	Jan, 12	R
83	Cheltenham ...	Dr. Cardew ...	33	S	" 23	R
84	Wakefield ...	Mr. Statter ...	42	M	" 26	R
85	Birmingham ...	Mr. Leech ...	35	M	Feb. 10	R
86	Nottingham ...	Mr. Euan Smith ...	44	M	" 14	R
87	Tamworth ...	Dr. Ruston ...	43	M	Mar. 17	R
88	Oswestry ...	Mr. Cartwright ...	50	M	" 20	R
89	Leicester ...	Dr. Clifton ...	28	M	" 30	R
90	Newport, Mon. ...	Dr. Thomas ...	47	M	April 14	R
91	Evesham ...	Dr. Gibbs Blake ...	34	S	" 14	R
92	Birmingham ...	Dr. O. W. Barrett ...	44	M	" 24	R
93	Birmingham ...	Dr. Hoare ...	45	M	May 11	R
94	Shifnal ...	Dr. Mayer ...	29	M	" 23	R
95	Birmingham ...	Drs. Newton and Alldridge ...	34	M	June 1	R
96	Redditch ...	Mr. Mathews ...	59	M	" 11	R
97	Birmingham ...	Mr. Harmar ...	36	M	" 12	R
98	Wolverhampton ...	Dr. Scott ...	36	M	" 25	R
99	Ireland ...	Dr. Barnardo ...	34	M	" 26	R
100	Birmingham ...	Mr. Prosser ...	32	M	" 27	R
101	Leicester ...	Mr. Griffiths ...	47	M	July 4	R
102	Salop ...	Dr. McCarthy ...	42	M	" 7	R
103	Birmingham ...	Mr. Whitcombe ...	33	M	" 8	R
104	Oswestry ...	Dr. Lewis ...	36	M	" 8	R
105	Oxford ...	Dr. Tuckwell ...	35	M	" 14	R

No.	Residence.	Medical Attendant.	Age.	M. or S.	Date.		
106	Dawley, Salop ...	Dr. Soame ...	47	M	July	17	R
107	Smethwick ...	Dr. Jackson ...	44	M	"	17	R
108	Rugby ...	Dr. Duke ...	46	M	"	21	R
109	Birmingham ...	Dr. Hickinbotham ...	27	M	Aug.	4	R
110	Nottingham ...	Dr. Elder ...	46	M	"	5	R
111	Smethwick ...	Mr. Langley Browne	31	M	"	10	R
112	Birmingham ...	Dr. Taylor ...	27	M	"	12	R
113	Crewe ...	Dr. Hodson ...	44	M	"	13	R
114	Pittsburgh, U.S.A.	Dr. Ballenden ...	40	M	"	21	R
115	Birmingham ...	Dr. Ravenhill ...	34	M	"	27	R
116	Birmingham ...	L. T. ...	38	M	"	29	R
117	Birmingham ...	Dr. Clay ...	25	M	"	29	R
118	Chester ...	Dr. King ...	32	M	"	29	R
119	Wolverhampton ...	Dr. Scott ...	34	M	Sept.	5	R
120	Birmingham ...	Dr. Taplin ...	35	M	"	5	R
121	Exmouth ...	Dr. Cox ...	33	M	"	18	R
122	Dresden ...	Dr. Meinert ...	48	S	"	18	R
123	Rugby ...	Dr. Simpson ...	33	M	"	21	R
124	Birmingham ...	Dr. Underhill ...	32	S	"	24	R
125	Cirencester ...	Mr. Fowler ...	47	S	"	25	R
126	Birmingham ...	Mr. Fairley ...	38	S	"	25	R
127	Nottingham ...	Dr. Taylor ...	53	M	Oct.	17	R
128	Abergele ...	Dr. Griffiths ...	44	M	"	19	R
129	Birmingham ...	L. T. ...	44	M	"	20	R
130	Manchester ...	Dr. Rodgers ...	36	S	"	24	R
131	Birmingham ...	L. T. ...	33	M	"	30	R
132	Elland ...	Dr. Denning ...	41	M	Nov.	5	R
133	Birmingham ...	Mr. Hallwright ...	40	M	"	11	R
134	Birmingham ...	Dr. Gibbs Blake ...	40	M	"	13	R
135	Manchester ...	Dr. Hammond ...	49	S	Dec.	4	R
136	Edinburgh ...	Dr. Croom ...	36	M	"	20	R
137	Willenhall ...	Dr. Hastill ...	30	M	"	29	R
					1886.		
138	Birmingham ...	Dr. Drury ...	25	S	Jan.	9	R
139	Birmingham ...	Dr. R. Morris ...	28	S	"	9	R
140	Rugby ...	Dr. Duke ...	43	M	"	15	R
141	London ...	Dr. Orwin ...	46	M	"	22	R
142	Cleckheaton ...	Dr. Sykes ...	44	M	"	24	R
143	Birmingham ...	L. T. ...	36	M	Feb.	10	R
144	Nottingham ...	Mr. Euan Smith ...	37	M	"	26	R
145	Nottingham ...	Dr. Marshall ...	41	M	Mar.	1	R
146	Stone ...	Dr. Fernie ...	36	M	"	5	R
147	Birmingham ...	Dr. Madden ...	34	M	"	8	R
148	Birmingham ...	Dr. Shaw ...	23	M	"	15	R
149	Monmouth ...	Dr. Woollett ...	32	M	"	29	R
150	Conway ...	Dr. Roberts ...	51	M	"	30	R
151	Holbeach ...	Dr. Harper ...	31	M	April	2	R
152	Wolverhampton ...	Dr. Green ...	32	S	"	27	R
153	Leominster ...	Dr. Barnett ...	38	M	May	5	R
154	Coventry ...	Dr. Pickup ...	42	S	"	6	R
155	Birmingham ...	Dr. Underhill ...	29	M	"	14	R
156	Birmingham ...	L. T. ...	22	M	"	17	R
157	Birmingham ...	Dr. Newton ...	39	M	"	17	R
158	Birmingham ...	L. T. ...	40	M	"	19	R
159	Stratford-on-Avon	Mr. Nason ...	39	M	"	21	R
160	Birmingham ...	Dr. Gibbs Blake ...	30	S	"	28	R
161	Birmingham ...	Dr. Madden ...	37	M	"	29	R
162	Birmingham ...	Dr. Taylor ...	28	M	June	21	R

No.	Residence.	Medical Attendant.	Age.	M. or S.	Date.	
163	Birmingham	Dr. Hogg	36	M	June 25	R
164	Birmingham	L. T.	28	M	" 27	R
165	Leominster	Dr. Barnett	31	S	July 1	R
166	Newport	Dr. Woollett	28	M	" 17	R
167	Bristol	Dr. Laurence	35	M	" 21	R
168	Coventry	Dr. Pickup	42	S	" 22	R
169	Stourbridge	Dr. McIlwrath	42	M	" 28	R
170	Birmingham	L. T.	31	M	Aug. 17	R
171	Festiniog	Dr. Roberts	43	S	" 18	R
172	Birmingham	Dr. Clark	40	M	" 20	R
173	Birmingham	Dr. Clark	35	M	" 21	R
174	Birkenhead	Dr. Floyd	43	S	" 21	R
175	Birmingham	Dr. Hopkins	48	M	Sept. 11	R
176	Merthyr Tydvil	Dr. Ward	33	M	" 15	R
177	London	Dr. Grigg	38	M	" 16	R
178	Atherstone	Dr. Herring	32	M	" 17	R
179	Montgomery	Dr. Robertson	45	M	" 27	R
180	Amsterdam	Drs. Heymans and Parvé	44	S	Oct. 5	R
181	Birmingham	Dr. Clark	32	S	" 8	R
182	Scarborough	Dr. Flint	42	S	" 25	R
183	London	Dr. Duke	37	W	Nov. 10	... D
184	Banbury	Dr. Thomson	43	S	" 26	R
185	Llandudno	Dr. Davies	36	M	Dec. 6 1887.	R
186	*Crickhowell	Dr. Jones	35	M	Jan. 7	R
187	Derby	Dr. Ogle	48	M	" 19	R
188	Wimborne	Dr. Parkinson	81	M	" 22	R
189	Bolton	Dr. Gillibrand	30	S	" 26	R
190	Cheltenham	Dr. Kirkland	32	M	Feb. 3	R
191	Accrington	Dr. Hanna	41	S	" 12	R
192	Bristol	Dr. Grace	30	S	" 15	R
193	Birmingham	Dr. Clark	24	S	Mar. 8	R
194	Gloucester	Dr. Needham	34	W	April 14	R
195	Alfreton	Dr. Pegler	32	M	" 15	R
196	Alcester	L. T.	30	S	" 22	R
197	Northfield	Dr. Wood	37	S	May 3	R
198	Birmingham	Mr. Sumner	43	M	" 11	R
199	Huddersfield	Dr. Porritt	24	S	" 23	R
200	Leicester	Dr. Johnston	26	M	" 24	R
201	Clun	Dr. Cox	38	M	June 2	R
202	Stafford	Dr. Cookson	46	M	" 10	R
203	Walsall	Dr. Willmore	29	S	" 13	R
204	Dudley	Dr. Bradley	29	M	July 13	R
205	Birmingham	Dr. Boddy	31	M	" 14	R
206	Southsea	Dr. Axford	43	S	" 18	R
207	Warrington	Dr. Adams	26	M	" 19	R
208	Redditch	Dr. Smith	44	M	" 25	R
209	Salisbury	Dr. Straton	39	M	" 30	R
210	Ravenstone	Dr. Hatchett	39	S	Aug. 19	R
211	Hexham	Dr. Stainthorpe	28	M	" 31	R
212	Birmingham	Dr. Newton	37	M	Sept. 7	R
213	Birmingham	Dr. Madden	49	M	" 15	R
214	Birmingham	L. T.	29	M	" 16	R
215	Newport	Dr. Morgan	38	M	" 29	R
216	Barrow-on-Trent	Dr. Knipe	29	S	Oct. 11	R
217	Holmfirth	Dr. Martin	47	W	Nov. 1	R

* Tumour afterwards expelled.

No.	Residence.	Medical Attendant.	Age.	M. or S.	Date.	
218	Market-Weighton	Dr. Jefferson ...	42	S	Nov. 16	R
219	Kidsgrove	Dr. Strickland ...	39	W	Dec 1 1888.	R
220	Measham	Dr. Sommerville ...	45	S	Feb. 2	R
221	Leicester	Dr. Clifton ...	30	M	" 10	R
222	Stafford	Dr. Marsh ...	48	M	" 29	R
223	Birmingham	L. T.	36	M	Mar. 8	R
224	Rugby	Dr. Duke ...	50	M	April 25	R
225	Birmingham	L. T.	44	M	" 27	R
226	Birmingham	L. T.	38	M	May 7	R
227	Birmingham	L. T.	39	M	" 17	R
228	Worcester	L. T.	36	M	" 31	R
229	Birmingham	L. T.	42	M	June 1	R
230	King's Lynn	Dr. Ploughwright ...	32	M	" 16	R
231	Leicester	Dr. Clifton ...	30	S	" 20	R
232	Torquay	Dr. Hope ...	47	M	July 9	R
233	Birmingham	L. T.	36	S	" 20	R
234	Claverdon	L. T.	37	M	Aug. 11	R
235	Kidderminster	Dr. Langford ...	30	M	" 23	R
236	Liverpool	L. T.	48	S	" 23	R
237	Burton-on-Trent	Dr. Hooper ...	43	M	Sept. 13	R
238	London	L. T.	29	S	" 27	R
239	Cannock	Dr. Butter ...	28	S	Oct. 12	R
240	Newport	Dr. Marsh ...	36	M	" 15	R
241	Droitwich	Dr. Fitch ...	38	M	" 18	R
242	Cannock	Dr. Butter ...	46	M	" 19	R
243	Colorado	Dr. Ambrook ...	41	M	" 22	R
244	*Southampton	Dr. Bullar ...	42	S	" 27	R
245	Rugby	L. T.	39	S	Nov. 1	R
246	Kington	Dr. Pope ...	46	S	" 1	... D
247	Nottingham	L. T.	43	M	" 2	R
248	Alvechurch	Dr. Clark ...	35	M	" 8	... D
249	Hereford	Mr. Vevors ...	36	M	" 14	R
250	Birmingham	Mr. Hallwright	38	M	" 14	R
251	Willenhall	Dr. Hartill ...	34	S	" 23	R
252	Staleybridge	Dr. Clarke ...	43	M	Dec. 1	R
253	Worcester	Mr. Fowler ...	27	S	" 6	R
254	Llanarth	Dr. Evans ...	39	S	" 13	R
255	Great Bridge	Mr. Price ...	32	M	" 18 1889.	R
256	Burslem	L. T.	26	M	Jan. 16	R
257	Huddersfield	Mr. Robinson ...	33	S	" 17	R
258	Huddersfield	Mr. Robinson ...	35	M	" 19	R
259	Hull	Drs. Holder and Hollingsworth ...	45	M	" 19	R
260	Hull	Dr. Jackson ...	36	M	" 21	R
261	Birmingham	Dr. Wilson ..	33	M	" 22	R
262	Tamworth	Dr. Buxton...	40	S	Feb. 2	R

*Large portion of tumour afterwards expelled.

ANALYSIS OF CASES ACCORDING TO AGE.				NO. OF CASES.
Under 20	...	...	...	1
From 20 to 30	...	...	...	29
From 30 to 40	...	...	...	113
From 40 to 50	...	...	...	113
Fifty and upwards	...	...	...	6

The above analysis of the cases placed according to age shows that the period of such has an overwhelming influence in the production of uterine myomata. I think it more than likely that the one patient under 20 had a tumour of the soft œdematous character, and I am perfectly sure that many of those between 20 and 30 suffered from this variety. I am still hovering in doubt as to whether removal of the appendages is as perfectly satisfactory in the soft œdematous myomata as in the hard multi-nodular, and it will only be a careful observation of the progress of these cases, operated upon under 30 years of age, which will establish a conclusion in the one direction or the other upon this point. The influence of this operation upon hard multi-nodular myomata is beyond a doubt perfectly effectual. In only three instances has there been anything, so far as I know, worth noticing in the after history of the cases. In two of these, marked by an asterisk, the tumours were reduced remarkably in size, then the hæmorrhage recurred; this recurrence being explained and completely relieved by the birth and removal of a small polypus. No doubt what had happened was that in the original condition of the tumour there had been an intra-uterine polypoid growth associated with many other nodules, and that the polypus was incapable of being extruded so long as the other nodules existed. When these disappeared the protrusion of the polypoid nodules was possible and was accomplished. In a third case, that in which I operated at the request of Dr. Halliday Croom, of Edinburgh, hæmorrhage was arrested for some considerable time, and then resumed its progress till it brought about the patient's death. No explanation of this was arrived at, because no *post mortem* examination was obtained. I am disposed to believe it was due to one of two conditions, either that a nodule became polypoid and was not extruded, or the disease became malignant. A fourth case I have not included in the table on account of the difficulty of deciding exactly in what category it is to be placed. The patient was sent to me from Dublin, having been under the care of Dr. Lombe Atthill. She was 30 years of age, and had a large smooth myomatous increase

of the uterus ; I removed the appendages and the patient had no bad symptoms at all till the sixth day, when the cervix began to dilate and the uterus made violent efforts to expel the tumour. As the patient was perfectly virginal and very anæmic, and the tumour well above the brim, I believed the birth of the tumour to be absolutely impossible. I therefore re-opened the abdomen and performed hysterectomy, with a fatal result. The tumour proved to be of the soft œdematous variety.

I think it hardly fair to reckon this as a death from removal of the appendages, and yet that operation was certainly not quite clear from the responsibility of the fatal issue. The case shows how easy it is to bring about an expulsive effort in this form of disease, and when the tumour is as large as it was in this instance nothing but hysterectomy probably will give a satisfactory result; though here again, as I said above, the question is not yet ripe for settlement.

THE TREATMENT OF CARBUNCLE.

BY F. MARSH, F.R.C.S.,

SURGEON TO THE QUEEN'S HOSPITAL, BIRMINGHAM.

FOR many years the treatment of carbuncle has been a fertile subject for discussion, and methods widely differing have been adopted and advocated by surgeons of repute, doubtless owing to the pathology of the disease being imperfectly understood. Recent investigations by bacteriologists have, I think, clearly shewn that this affection is a local one, and that it is caused by the presence and multiplication of a pyogenic coccus—the *Staphylococcus Pyogenes Aureus*. The constitutional condition is however a not unimportant factor, for the same investigators have also demonstrated the inability of most noxious micro-organisms to grow in undamaged healthy living tissues, the

leucocytes speedily destroying them, and, on the other hand the facility with which they establish themselves in tissues of diminished vitality. With these facts in view it should not be difficult to lay down a clear and definite mode of treatment, viz. : to locally remove or destroy these micro-organisms, and to improve and promote the vitality of the body by hygienic and tonic measures. No definite rules can be laid down for the latter part of this treatment ; each case must be dealt with according to its peculiar features and surroundings.

For carrying out the local treatment several methods may be employed.

Six years ago Mr. Hewetson, of Leeds,* successfully removed carbuncles by means of a scoop and scissors, and a similar mode was subsequently employed by Messrs. Allan and Teale of the same town, the latter in addition, making numerous incisions to facilitate the process, and afterwards soaking the bared area with pure carbolic acid.

Last year Mr. Herbert W. Page, of St. Mary's Hospital, recorded successful cases after scraping away the carbuncle with Lister's scoop and Volkmann's spoon.† Mr. Edmund Owen adopts the same means, but with radiating incisions. ‡

Mr. Rushton Parker, of Liverpool, excises and scrapes away the carbuncle.¶ The subsequent dressing is invariably an antiseptic one, and, in a period varying from five to ten days, a healthy healing ulcer has replaced the carbuncle.

On the other hand, M. Verneuil uses a 2 per cent. carbolic spray three or four times a day for 20 or 30 minutes, and applies carbolic compresses in the intervals.§ Mr. H. Lowndes of Liverpool, Dr. Snow of Bayswater, and Dr. Q. McLennan of Glasgow, also record their treatment by the application of carbolic acid in various strengths with good results.¶¶

* *British Medical Journal*, 1883. Vol. i, p. 417.

† *Ibid*, 1888. Vol. i., p. 635.

‡ *Ibid*, 1888, Vol. i., p. 643.

¶ *Ibid*, 1888, Vol. i., p. 690.

§ *Ibid*, 1888, Vol. i., p. 322.

¶¶ *Ibid*, Vol. i., pp. 743, 899. 944.

Mr. Augustin Prichard of Bristol, uses potassa fusa making a central slough varying with the size of the carbuncle,* and this agent is not unfrequently used by other surgeons, the mode of application slightly differing. The expectant method, crucial incision, compression by strapping, application of various unguents and cerates, have still each their several advocates. These I do not propose to discuss. Of the former, the weight of evidence is I think undoubtedly in favour of the mechanical removal of the carbuncular tissue, and the notes of the two following cases well illustrate the value of this treatment.

Case 1.—J. R. P., æt. 42, an agent, was admitted under my care in the Queen's Hospital, on Sept. 6, 1888. Family history unimportant. He lives freely, but has always been fairly healthy. About three weeks prior to admission he noticed the carbuncle commencing; he felt in his usual health and continued travelling about the country. Later, he consulted a medical man, who on two or three occasions applied pure carbolic acid and dressed it with carbolic compresses. The carbuncle, however, rapidly increased and he was advised to seek admission into a hospital. The patient is a tall, well built, but gross man, with dark florid complexion. At the back of his neck there is a carbuncle extending transversely from the posterior border of one sternomastoid to the posterior border of the other, and vertically from the occipital protuberance to the 7th cervical spinous process. Without exception, the largest carbuncle I (or those of my colleagues who saw it) had ever seen. In the centre were two or three sloughy openings, and the circumference was red, swollen, and brawny. There was no sugar or albumen in the urine. The following day, under an anæsthetic, a transverse incision was made, joining the existing openings and extending well into the brawny tissue at the sides. The whole of the slough and softened and infiltrated tissues, were then excised and erased with scalpel, scissors, and a sharp Volkmann's spoon, the latter by itself being quite inefficient. Pure carbolic acid was applied over the exposed area, especially to the circumference and

* *Ibid.* Vol. i., p. 900.

pockets. This stopped all hæmorrhage, which had been free, but not excessive, and easily controlled by sponge pressure. There were now two large flaps forming an upper and lower pocket, but draining freely with the patient on his side in the recumbent posture. They were lightly packed with gauze dusted with boracic acid, and absorbent dressing applied. No pain whatever was experienced subsequently, the temperature fell to normal and kept there. On the fifth day, healthy red granulations were springing up everywhere, and on the seventh day after the operation, the whole of the superficial slough caused by the carbolic acid had been cast off, and a healthy healing ulcer was left, measuring 7-ins. by nearly 6-ins. The flaps of skin were now approximated to the base, and in a short time had united, largely diminishing the size of the ulcer. A few skin grafts were applied later, and in six weeks from the time of his admission, the ulcer was practically well, and the patient went back to Yorkshire.

Case 2.—J. R., æt 73, labourer, admitted into Queen's Hospital Jan. 16th, 1889.—About three weeks ago he noticed the carbuncle forming. A week ago he came to the hospital for medical advice for a cough, and on his second visit was transferred to my care, the existence of a carbuncle not having been mentioned on the former occasion. The patient is a flabby, unhealthy looking, and feeble old man, suffering from chronic bronchitis. There is a trace of albumen in the urine; no sugar. In lower dorsal region, on the right side, is a large carbuncle, measuring rather more than six inches in each diameter, and there are several boils scattered about the back. Poultices have been the only treatment. It was evident that unless the progress of the carbuncle could be stayed, the pain and discharge, superadded to the bronchial trouble would soon induce a fatal termination. I therefore decided that the administration of an anæsthetic, which was really the question at issue, was the lesser evil of the two, and on the following day I rapidly excised and erased the carbuncle in the way described above. The hæmorrhage was profuse, but stopped by the pure

carbolic acid and gauze packing. No ill effects were experienced from the anæsthetic, which was carefully administered by Mr. J. A. James, the house surgeon, neither was any pain subsequently felt by the patient. At the end of a week the wound was converted into a healthy ulcer, with the exception of a small slough at the skin margin. As soon as this separated the flaps were approximated, and at this date, Feb. 12th, there is only a very small surface unhealed.

Little need be said about the "Technique" of the operation ; it is most advisable that as much skin as possible should be preserved, and none cut away unless it is absolutely necrosed. The line of incision or incisions must to some extent be modified by the situation of the carbuncle, the drainage required, and the number and size of the fistulous openings. One extending through the longest diameter, joining any openings, will, in most cases, afford a sufficiently free access, and leave flaps that can be easily approximated afterwards. The application of pure carbolic acid I look upon as most important ; it not only renders the whole surface thoroughly aseptic, but the subsequent anæsthesia induced by it is a great boon to the patient.

The second case clearly shows that, if an anæsthetic can be administered, this seemingly severe procedure may with advantage be adopted, even if the patient is old, feeble, and broken down in health, as is so often the case.

In the initial stage the application of carbolic acid to the pustule, or the injection of a solution of it, or other germicide, such as the perchloride of mercury, into its base, may abort the threatened carbuncle; but when tissue necrosis has taken place and the inflammatory zone is extending, thorough removal in the manner indicated above will ensure the most speedy recovery. I certainly do not know any other method of treatment by which these huge septic masses, full of danger to the patient, can be converted within one week into innocuous healthy ulcers, or by which such immediate and complete relief from pain can be obtained.

REPORTS OF CASES.

SIMULTANEOUS PARALYSIS OF THE FIFTH, SIXTH, AND THIRD NERVES.

BY C. W. SUCKLING. M.D. (LOND.), M.R.C.P.,
PHYSICIAN TO THE QUEEN'S HOSPITAL.

A. G., a man aged 31, was admitted into the Queen's Hospital on October 8th, complaining of dropping of the right eyelid, and of loss of feeling over right side of face. The patient stated that five years ago he had a chancre, followed by a sore throat, but that he had had no rash. He is married and has four children living and all are healthy. His wife has had two miscarriages, each at about the fourth month. Four years ago he noticed his right testicle was swollen and painful. The pain in the testicle returns at times accompanied with much swelling. At about the same time the right knee became swollen and painful. About three months ago he suffered severe pain in the right eye, and shooting pains in the right side of the face and forehead, and in the teeth on the right halves of both upper and lower jaws, which was worse at night. He had two teeth extracted without any relief of the pain. The neuralgic pains gradually diminished and were followed by anæsthesia. For the past five weeks his right eyelid has drooped. It was found that the right fifth, sixth, and third nerves were paralysed, and that the body of the right testicle was irregularly enlarged, hard and insensitive to pressure.

The following condition was present in the area of distribution of the fifth nerve. The skin of the right half of the face was almost completely anæsthetic, tactile, thermal, and painful impressions being almost abolished. The anæsthesia extended exactly to the middle line down the centre of the forehead, nose, lunula and chin, and downwards as far as the lower border of the lower jaw, and backwards it extended as far as the posterior border of

the vertical ramus and to a line drawn vertically upwards from the external auditory meatus exactly to the middle line of the cranium, including the anterior two-thirds of the parietal region ; all the area included within these lines being almost completely anæsthetic. Moreover, sensation in the mouth was much diminished on the right side, and the right half of the tongue from tip to root was anæsthetic, together with the right pillars of the fauces and right half of the soft palate and uvula. The palatal reflex was much diminished on the right side. The pharynx was equally sensitive on both sides. Taste was impaired in the right half of the tongue from tip to root, and the right side of the tongue was furred. Mastication was very difficult on the right side. The sense of smell was only slightly diminished on the right side, but snuff and ammonia were much less perceived in the right than in the left nostril. The right conjunctiva was anæsthetic, and the conjunctival reflex abolished. There was no ophthalmia. Hearing was a little impaired on the right side and the external auditory meatus was anæsthetic. The motor portion of the fifth nerve was also implicated ; on the right side there was some wasting of the temporal muscle, and both this muscle and the masseter could not be felt to contract when the jaws were tightly closed ; the contrast between these muscles and those on the opposite side being well-marked. He could turn the lower jaw towards the right side, and when he attempted to protrude it the jaw was projected to the right, not directly forwards. When the patient opened his mouth the lower jaw markedly turned towards the right side, proving the existence of paralysis of the right external arterygoid muscle. The right eye could not be turned outwards, inwards, or downwards, but on attempting to look upwards the eyeball was rotated slightly upwards and downwards, and on trying to look downwards the eyeball was rotated downwards and outwards, shewing that the branch of the third nerve to the inferior oblique muscle and the fourth nerve were not implicated. The right pupil was smaller than the left, the diameter of the right being 3·5 mm., that of the left, 4·5 mm. The right pupil responded to

light and accommodation, and during accommodation for near objects the pupils were not so unequal as they were when relaxed. The fundus oculi on each side was normal. The reflexes on both sides were also normal, and there was no trace of weakness or anæsthesia in either half of the body or in either of the extremities. The points of interest in the case are the nature and situation of the lesion causing the paralysis of the cranial nerves. The lesion was evidently syphilitic, the condition of the testicle was evidently due to syphilis, and the paralysis improved under the administration of large doses of iodide of potassium with mercurial inunctions. The fact that the paralysis of the fifth nerve was complete, involving both sensory and motor portions, makes it certain that the lesion was outside the pons, involving the trunk of the nerve. The absence of any hemiplegic symptoms also points to the lesion being outside the pons. The absence of ophthalmia may be partly accounted for by the protection afforded to the eye by the ptosis, but it also points to the lesion in the nerve being behind the gasserian ganglion. The implication of the third and sixth nerves is easily explained by their proximity to the trunk of the fifth nerve in the posterior fossa. The impairment of taste all along the right side of the tongue is to be remarked, and it supports Dr. Gowers' views of the fifth nerve being the sole nerve of taste. The escape of the intra-ocular branches of the third nerve is remarkable; it was noticed that the eyeball could be rotated a little upwards and outwards. When the external muscles of the eyeball are all affected and the internal escape, a central lesion is suggested, but there is no doubt that a peripheral lesion of the third nerve might produce this condition. The inequality of the pupils was marked; the smallness of the right pupil might be accounted for by supposing that the dilating fibres of the sympathetic running in the fifth nerve had been injured.

From the foregoing facts it was concluded that the trunks of the right fifth, sixth, and third nerves were injured by a syphilitic lesion on the right side of the pons in the posterior fossa of the skull.

CASE OF BULBAR PARALYSIS.

BY C. W. SUCKLING, M.D. (LOND.). M.R.C.P.

THE following case of sudden bulbar paralysis recently came under my observation. The notes of the case are necessarily somewhat meagre, since I have only seen the patient once.—The patient, a gentleman nearly sixty years of age, came to me suffering from inability to speak, and difficulty in swallowing and mastication. He had suffered from great mental strain in the early and middle period of his life. His mother was an epileptic, but no other family history of importance could be obtained. Many years ago he had syphilis, but remained well till about seven years ago, when he began to suffer from severe headache. The headache was persistent and always worse at night, and always affecting especially the left side of the brow. He had had two cerebral attacks and was temporarily unconscious in each. Eighteen months ago he had a sudden attack of temporary unconsciousness, and was found to have almost complete dysphagia and aphonia with paralysis of the lips and tongue, and slight hemiplegia on the right side, the latter symptom soon disappearing. For some time after the attack he had to be fed with a tube, fluids being returned through the nose, and solids causing coughing and choking. He was in imminent danger, but after some time his symptoms began to improve. I found that he had almost completely lost his power of articulation and his voice was very feeble and low pitched. His face had the characteristic expressionless aspect of bulbar paralysis, and saliva was constantly dripping from his continuously opened mouth. He could not whistle or purse up his lips, and their movements were much restricted though there was no evident wasting. The tongue was small and he could only just protrude the tip beyond the teeth. He could turn up the tip, but all the movements were much restricted. There was no wrinkling of the surface of the tongue. Taste and common sensation were intact. The soft palate was flaccid, and could only be very

slightly elevated; the palatal reflex was abolished. The vocal cords moved naturally except that adduction was weak and could not be sustained. The pupils were equal, of normal size, and responded to light and accommodation. The fundus oculi was normal on each side. The knee-jerk was normal on both sides. The patient was perfectly rational, according to his wife, who could understand his efforts at articulation; but I noticed that he laughed at trifles and was evidently highly emotional. He managed to eat some bread and butter and drink a cup of tea with tolerable facility, although he was slow and very careful in doing so.

There can be no doubt that this case was an instance of sudden bulbar paralysis, and that the lesion was thrombosis of one or more of the medial branches to the medulla derived from the vertebral arteries, due to syphilitic disease of the vessels.

The symptoms of bulbar paralysis may result from lesions very different in their nature and location. We may meet with the following varieties:—1. The common form, chronic bulbar paralysis first described by Duchenne, and consisting in a degeneration of the nerve nuclei in the medulla. 2. The lesion in the medulla may be sudden, and due to vascular occlusion, or to hæmorrhage. 3. The lesion may be acute, but not sudden, consisting in acute inflammation of the motor nerve cells, and corresponding to the acute inflammation of the anterior cornua so frequently observed in childhood. 4. The nerve trunks of the bulbar nerves may be damaged outside the medulla by growths, and give rise to unilateral or bilateral symptoms. In this case the reflexes are lost, electrical and trophic changes are present, but the symptoms are rarely symmetrical and the lips are unaffected. 5. The symptoms of bulbar paralysis may be due to a bilateral and symmetrical lesion of the motor convolutions at their lower extremities or of the fibres from these convolutions and the process may be acute (softening) or chronic (tumour or degeneration), giving rise to acute or chronic bulbar paralysis. In this variety reflex action is not lost, there are no qualitative electrical changes and no wasting.

PERISCOPE.

THERAPEUTICS.

BY ROBERT SAUNDBY, M.D. EDIN., F.R.C.P. LOND.

Poisoning by Amyl Nitrite.—Roesen (*Centr. f. Klin. Med.* 1888, No. 43) has recorded a case of a young man who drank three to four drachms of amyl nitrite when in a state of epileptic automatism. He went on with his work for an hour or two, but on returning home he was sick and vomited food smelling of amyl nitrite. Roesen saw him four hours after taking the dose when he was pale, complained of burning in the throat, weight at epigastrium and oppression in the head. Beyond acting as an irritant and causing some transient gastric catarrh there were no other ill effects.

Phenacetin in Migraine.—Many of our readers have doubtless seen benefit from the use of antipyrin in this serious form of headache, but it is not always successful.

Rabuske has published (*Deutsche Med. Woch.*, 1888, No. 37) a case in which, after the failure of antipyrin and antifebrin, phenacetin in doses of half a gramme ($7\frac{1}{2}$ grains) night and morning cured the patient after three days. In this patient the headache had been of daily occurrence, coming on every morning and lasting till the evening. It was distinctly hemi-cranial and attended by chilliness, languor and paleness of the face.

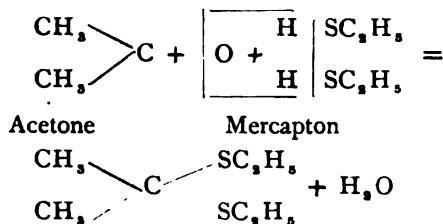
Lactic Acid in Tuberculous Diarrhoea.—MM. Sézary and Aune recommend the use of lactic acid in doses of from half a drachm to two drachms daily in the treatment of tuberculous diarrhoea. Where heartburn and digestive troubles resulted they added a few drops of chlorodyne. It is stated that not a single case resisted the treatment, and that the maximum duration of the diarrhoea was four days.

De la Suspension dans le traitement de l'ataxie locomotrice progressive et de quelques autres maladies du système nerveux.—

J. M. Charcot (*Le Progrès Médical*, 19th Jan., 1889).—This somewhat extraordinary method of treatment was originated by Dr. Motchonkowsky, of Odessa. It consists in hanging the patient by the neck for a longer or shorter time by means of Sayre's apparatus. The suspension is progressive, commencing by half a minute. It is increased by half a minute at each sitting (or, rather, hanging). Prof. Charcot speaks of having tried it on eighteen ataxics, with remarkably good results in eight. The benefit has shown itself in the gait, in equilibration, in disappearance of vesical troubles, and lightning pains, and in return of sexual desire with erections. He speaks of the benefit obtained also from this method by a little girl affected with *Friedreich's disease* (hereditary ataxy), and of *temporary paraplegia* induced by it in a case of insular sclerosis.

Sulphonal.—This is a new and valuable hypnotic discovered by Prof. E. Baumann, of Freiburg. Its chemical name is dithioethyl-dimethyl-methane. Schmiedeberg had pointed out the danger of the halogen compounds, to which class belong both chloral and bromide of potassium, on account of their action in paralysing the heart.

Its formation may be illustrated by the following equation :—



mercaptol or dithioethyl-dimethyl-methane.

Its therapeutic properties were investigated by Prof. Kast (*Berlin Klin. Woch.*, 1888, No. 16), of Freiburg. He states that it is soluble in 100 parts of water at the ordinary temperature, in 18 parts of boiling water, and freely in alcohol and alcohol ether. He gave it 300 times with no ill effects. He recommends it to be given in hot soup.

Crämer (*München Med. Woch.*, 1888, No. 25) administered it 407 times to lunatics, its use being followed by sleep in 374 instances—92 per cent.

Langgard and Rabow (*Therap. Monatshefte*, 1888, Mai) tried it on one of themselves, who was suffering from sleeplessness. Favourable results followed the use of 15 grains; sleep set in after half an hour, and there were no disagreeable secondary effects.

Salys (*Wien. Med. Woch.*, 1888, No. 22) found 30 grains of sulphonal better than 90 grains of paraldehyde.

Fürbringer (*Deutsche Med. Woch.*, 1888, No. 25) found that it acts best in cases of nervous sleeplessness. In these it succeeded in 21 out of 28 cases—90 per cent. In phthisis, cancer, and heart disease, it was less successful, 44 per cent. only getting sleep from its use.

Franz (*On the Action of Sulphonal on Surgical Patients*. Würzburg, 1888) has reported the results obtained in Schönborn's wards at Freiburg. In 26 cases of nervous sleeplessness sulphonal was administered 82 times, and succeeded in 78, or in 95·1 per cent. In cases where sleeplessness was due to pain, the results were not so favourable, though he believes it has some analgesic power. It relieved toothache in one case. It acted well in fever cases, and gave good results in a patient who was suffering from the after effects of chloroform. It never produced headache, sickness or weariness next day.

Oestreicher (*Berlin Klin. Woch.*, 1888, No. 25) has published a long series of cases in which sulphonal was tried and proved efficacious in several where chloral, paraldehyde, and amylene hydrate had failed or proved objectionable. In one case there was drowsiness the next day and in another the drug failed altogether; this was a case of morphinism.

Careful experiments have proved that even in large doses it does not depress the circulation.

It may be recognised by the following test:—On heating sulphonal with gallic or pyrogallic acid it gives off the unbearable odour of mercaptan.

Lovegrove has written unfavourably of his experience of the drug, in one case no sleep followed its use, while the next day there was marked cyanosis with considerable drowsiness. He recommended its administration in cinnamon water rubbed up with syrup and tragacanth mucilage.

The dose is one, two, or three grammes (15, 30, to 45 grains).

Ziemssen (*Centrl. f. Klin. Med.*, 1888, Oct. 6) observed that out of 27 cases 72 per cent. obtained at least six hours' sleep from its use; in 9 per cent. its action was incomplete, and in 19 the results were negative. In 20 per cent. fatigue, indisposition, singing in the ears, headache or giddiness were complained of; while in one or two cases vomiting followed its use.

Its action is slower than chloral hydrate, and it has no effect on pulse, temperature, or respiration. It has the great advantages over other hypnotics of less-marked odour and taste, and of not affecting the vital centres.

Notes on the Value of some New Drugs.—James F. Goodhart (*Brit. Med. Journal*, Jan. 19th, 1889).—Dr. Goodhart recommends *paraldehyde* in half-drachm doses in the cardiac distress and asthma of valvular heart disease and Bright's disease; also in the headache of Bright's disease, and in the delirium of chronic alcoholism and typhoid fever.

He has seen hypodermic injections of *pilocarpin* relieve the intolerable itching of jaundice.

He also speaks favourably of *antipyrine* in chorea, and of the hypodermic injection of *strychnine* in various paralyses.

The relative value of Opium, Morphine, and Codeine in Diabetes Mellitus.—T. R. Fraser (*Brit. Med. Journal*, Jan. 19, 1889).—Prof. Fraser has investigated the action of these three drugs on a case of diabetes, and gives the following as his conclusions:—

1. The case was one in which mere restriction of diet did not have so marked an effect as occurs in many cases. The prospects of successful treatment were not, therefore, very hopeful.
2. Codeine had a very decided effect in reducing the quantity

of urine, sugar, and urea. When contrasted with the reduction produced by restricted dietary alone, the addition of nine grains of codeine in the day lessened by about one-third, and of fifteen grains of codeine in the day by about one-half, the quantity of fluids drunk, and the quantity of urine, sugar, and urea, and it slightly reduced the specific gravity of the urine.

3. The addition to fifteen grains of codeine of the one-twentieth, and afterwards of the one-tenth, of a grain of sulphate of atropine, caused a still further, though not a large, reduction.

4. After the administration of codeine had been stopped, an interval of six days on restricted diet, without any medicinal treatment, was not sufficient for a deterioration to occur to the conditions present before codeine had been given.

5. The subsequent administration of half a grain of opium thrice daily produced a considerable reduction. With one grain of opium thrice daily the reduction was to less than one-half, when contrasted with the amounts during a restricted diet alone, and before any medicinal treatment had been adopted. One grain and a half thrice daily produced a further reduction; and when to it was added one-twentieth of a grain daily of sulphate of atropine, a still further reduction occurred.

6. Restricted diet, with one-third of a grain of hydrochlorate of morphine thrice daily, or one grain daily, also produced a marked reduction; and the conditions relative to the points under investigation were even more satisfactory than when fifteen grains daily of codeine were being administered. While this small quantity of morphine was being taken, the fluids drunk by the patient were only one-third, the urine and sugar less than one-half, and the urea about one-half of the amounts during the period of restricted diet alone, before medicinal treatment had been commenced.

Taken together with Dr. Mitchell Bruce's carefully worked out results, which entirely agree with Prof. Fraser's, there ought to be an end of the codeine humbug.

β-Naphthol in Enteric Fever.—Dr. Mitchell Clarke has been making some experiments on the action of *β*-naphthol in enteric fever, and has arrived at the following conclusions:—

(1) That the production of intestinal antiseptics is a rational mode of treatment of enteric fever, and that β -naphthol is a safe and tolerably efficient agent for this end.

(2) That by its use in the above cases the duration of the disease was shortened, and the intensity of the symptoms directly arising from profound disturbance in the alimentary canal was lessened.

(3) That the tendency to the occurrence of splenic enlargement, albuminuria, and of sedentary complications—such as boils, abscesses, etc., of purulent infective origin—is diminished.

(4) That complete convalescence is more speedily and satisfactorily attained; and that there is less risk of a propagation of the disease to others.

Finally, we must bear in mind that in some patients naphthol may excite so much gastric disturbance as to prevent its use.—*The Practitioner*, Dec., 1888, p. 426.

Inhalations in Lung Disease—In a very complete paper on this subject Dr. Theodore Williams related the results of a series of observations carried out at the Brompton Hospital for Consumption, to determine the activity and effect of the different forms of inhalation in common use. The following are his practical conclusions:—(1) The success of inhalations as a mode of medication depends principally on the easy convertibility into gas or vapour of such substances as are clearly desirable for the purpose. (2) Bodies which are volatilised at ordinary temperatures, such as ether and nitrite of amyl, are more readily absorbed by the lungs than bodies which have to undergo combustion before conversion into gases—the products of fuming powders, papers, and cigarettes. (3) All moist inhalations, where steam, watery vapour, or spray is the vehicle of medication, are but slowly absorbed by the lungs, and enter the circulation in small quantities—in some cases not at all; the slow rate of pulmonary absorption contrasting strongly with the rapidity of gastric absorption of the same medicines when swallowed, as proved by their detection in the urine. Iodine is a striking instance of this. (4) Medicinal inhalations are more

useful in diseased conditions of the pharynx, larynx, and larger bronchi than in those of the alveoli and lung parenchyma, which do not readily absorb, if indeed they are freely reached by these applications. (5) In pulmonary disease the "antiseptic respirators," while they lessen cough and reduce expectoration, exercise no lasting remedial influence on the diseased conditions of the lungs, and often seriously interfere with the freedom of respiratory effort, which is an essential condition of success in the treatment of these affections. They are vastly inferior to counter-irritation of the chest-walls with cantharides, iodine, or mustard.—*Brit. Med. Jour.*, Sep. 29, 1888, p. 700; *Practitioner*, Dec., 1888.

RENAL AND URINARY DISEASES.

BY ROBERT SAUNDBY, M.D. EDIN., F.R.C.P. LOND.

A contribution to the Pathological Anatomy of Scarlatinal Kidney.—C. H. Willey (*The Medical Press*, Dec. 26th, 1888.)—Willey says that changes in the kidneys may be found *where there has been no albuminuria*; for example, cloudy swelling of the epithelium, minute hæmorrhages, swelling of glomeruli, and even accumulations of nuclei or small cells along the blood vessels.

The peril incurred in Alpine Winter Climates of Renal complications in Phthisis.—A. Clark (*The Lancet*, Jan. 5th, 1889.) Sir Andrew Clark writes—From a critical study of the accessible histories of patients whom I have sent, on account of phthisis, to winter in Alpine altitudes, I have learnt two important facts which deserve to be known. The first is that patients who go to those regions suffering from albuminuria seldom do well: and the second is that patients who whilst dwelling there become albuminuric almost always do ill.

From these considerations, and also from others unnecessary to be recorded at present, I venture to suggest, for so long as

our knowledge now stands as it does, that no phthisical person with albuminous urine should be recommended to winter at any Alpine height; and that everyone beginning to have albuminous urine when dwelling there should be immediately sent away.

The value of Jaborandi and its alkaloids in the treatment of Bright's Disease.—J. G. Marshall, (*The Lancet*, 1888, Vol. II., p. 1228.)—Dr. J. G. Marshall reports a case of dropsy and albuminuria in a young man, aged 19, which, after several months unsuccessful treatment at home and in hospital, yielded to the subcutaneous injection of pilocarpine. He began with a quarter of a grain twice a day, reducing this to a fifth of a grain daily, and afterwards on alternate days. The larger dose caused faintness and vomiting. By this means only, great general anasarca and pleural and ascitic effusions were got rid of in a month. He had milk diet and when he was allowed to go out he had steel and convallaria. Dr. Marshall also speaks of the benefit to be obtained from an infusion of Jaborandi leaves, but states that it easily excites nausea.

The relation of Albuminuria to Life Assurance.—J. Tyson, (*Philadelphia Medical News*, Nov. 17, 1888.)—Tyson, in a paper read before the Association of American Physicians at Washington, contends in favour of the recognition by Life Assurance Companies of the condition of functional albuminuria as coming within the range of insurable risks; he urges this as desirable not only out of consideration to their own interests, but in justice to a class of persons which is coming to be recognised more frequently and which is at present excluded from those benefits to which it is entitled.

He formulates the following conditions as essential to the acceptance of the life, and to the diagnosis of the albuminuria as "functional":—1. The applicant must be in all other respects in good health; 2. The albuminuria must be unaccompanied by tube casts; 3. The quantity of albumen must be moderate, not exceeding a fifth of the bulk of the specimen examined; 4. The night's urine should be free from albumen; 5. The "real" specific gravity of the urine—that is the sp. gr. of the whole

quantity for 24 hours should not be less than 1015; 6. Cardiac hypertrophy, high arterial tension, and retinal changes are absolutely exclusive; 7. The age of the patient should not exceed forty; 8. The presence of true gout should always exclude the applicant. To these the writer of a leading article in the *British Medical Journal* adds hereditary tendencies to Bright's disease; and Dr. Ritchie, in a letter to the same journal, the history of an acute attack of nephritis.

The Kidneys in Diabetes.—R. Fichtner (*Virch. Arch.*, cxiv., Hft. 3), points out that among the lesions observed in the kidneys of subjects of diabetes, glycogenic degeneration or infiltration of the epithelia of Henle's tubes is one of the most constant, but yet difficult of explanation. Changes in the cortex have been less frequently met with; some have seen acute interstitial inflammation, leading even to granular kidney; others describe epithelial necrosis, especially in cases of diabetic coma, attributable to the action of acetone and diacetic acid. Fatty degeneration is described by various writers, notably by Frerichs and Ebstein, the latter meeting with marked fatty change and free fat between the cells. Fichtner in two cases of diabetic coma found, in addition to the glycogenic degeneration of Henle's tubes, very marked fatty degeneration of the cortical epithelium, the fat globules being in each case regularly arranged along the periphery of the cells just beneath the basement membrane; and those tubules solely were affected which contained cloudy epithelium. The epithelia of other parts, as well as the glomeruli and the connective tissue, were apparently normal; and there was no indication of necrotic or inflammatory change. The absence of inflammation was remarkable, especially in one of the cases, which during life presented albuminuria and renal casts, and was therefore considered to be a case of chronic nephritis, with diabetes. This peculiar type of fatty change had been met with by Fichtner in a case of chronic nephritis following alcoholism, but in that case many tubules exhibited a more diffuse degeneration than the variety described. In cases of phosphorus poisoning the cells are filled with fat globules

of various size and grouping. In seeking for an explanation of the lesion, he remarks that both these patients died comatose, and had the peculiar odour of the breath indicative of acetone and diacetic acid in the urine. Having regard to the previous observations of Albertoni and Pisuti, as well as of Ebstein, which point to the connection between epithelial necrosis in the kidney and the presence of these substances in the urine, it is highly probable that the special kind of fatty degeneration must be referred to these or allied bodies. If fatty degeneration occurs apart from coma, its cause must be found in the excess of sugar. The subject is open to experimental research, which may throw some light upon the subject of renal secretion. *The Lancet*, Jan. 5, 1889.

The Connection Between Diabetes Mellitus and Diseases of the Heart.—Dr. Mayer, of Carlsbad, states that the occurrence of attacks resembling angina pectoris, both in the initial and the more advanced stages of diabetes, has led him to make an examination of the physical condition of the heart in a large number of cases under his care during the last nine years. The whole number equals 380, of which 337 were in the first stage, and 43 in the second. The cases are further to be classified in three types, according to their general appearance: 1. Pale, feeble, delicate, anxious-looking patients. 2. Vigorous, healthy-looking patients, with florid animated countenances. 3. Obese patients, some of whom are ruddy, some pale and sallow.

In the beginning of the complaint examination of the heart and vessels rarely shows any change due to the presence of sugar, or of an increased amount of urea in the blood; but later in the disease changes occur whose nature depends on the type to which the patient belongs. In some cases of the first type endocarditis sometimes develops; in others there are the well-known symptoms of cardiac debility coming on suddenly without physical signs of change in the heart muscle or endocardium, and in still others the organ becomes dilated, and gives rise to severe dyspnoea and *delirium cordis* on the action of some exciting cause. In the majority of the cases of the second type there arise, after a variable time, the general symptoms and

physical signs of idiopathic hypertrophy of the left ventricle. This condition may persist for years without much systemic disturbance; but when the nutrition becomes impaired, the heart becomes relaxed and dilated, and signs of cardiac debility appear. In a considerable number of cases of diabetes, cardiac hypertrophy and dilatation develop without there being any morbid changes in other organs. This is due to the chemical irritation of the heart by the sugar, and by the increased amount of urea in the blood. But the abnormal condition of the blood leads to changes in the urine, and this again usually induces alterations in the structure of the kidneys and disturbances of their functions, and it is in this latter way that the hypertrophy and dilatation of the heart, so frequently found in diabetes, are generally produced. The author has examined the records of the Pathological Institute of Berlin for the last thirty-two years, and has found that thirteen per cent. of the cases of diabetes had hypertrophy and dilatation of the heart. Changes in the vessels in this disease are probably secondary to the affection of the heart. It seems evident that it is the morbid metabolism which is the active agent in producing the organic changes. As regards treatment, it is clear that everything should be avoided which may impair the action of the heart and kidneys, since organs which are in a state of hyperactivity easily become diseased; and it is on this account that a rigidly nitrogenous diet cannot, in all cases, be enforced.—*The British Medical Journal*.

Diabetic affections of the Eye.—William Oliver Moore (*N. Y. Med. Jour.*, March 31st), presents a historical *résumé* of the ocular affections in diabetes, with a report of the cases occurring in his practice for the past ten years. Out of ninety-seven diabetic subjects, twenty-one had ocular affections, divided as follows:—

Amblyopia (without ophthalmoscopic change)	4
Cataract	4
Retinitis (glycosuric)	5
Hemorrhages and floating bodies in vitreous	4
Paralysis of accommodation	3
Iritis (diabetic)	1

Temporary loss of accommodation was of frequent occurrence, but in three cases it was permanent. The ages of these three patients were 30, 36, and 29. There was no case of paresis of the abducens. The case of iritis recovered therefrom with certain adhesions and after six weeks, but the patient died some two months later. Want of clearness of the vitreous was frequently noticed, without definite opacity, and varying with the excretion of sugar. In several cases, however, floating bodies in the vitreous (with opacities in the lens) were more decided and permanent. These opacities did not increase in either vitreous or lens up to the time of death. As regards cataract, from the reports of eight hundred and fifty-eight cases of diabetes the author finds cataract occurring once in seventeen. Of the four cases seen by the author, one cataractous lens was successfully removed. He advises removal of the lens in old people having sugar in the urine after a few weeks' treatment of the general disease. Inflammation and necrosis of the cornea in young diabetics is very apt to follow the operation, and therefore renders it inadvisable.

In one case "some effect on the opacities in the lenses" is said to have followed careful treatment. Coming to retinitis, Dr. Moore believes that retinitis occurring in diabetes before the kidneys are diseased can be diagnosticated as such, and that it has distinctive characters. But when the kidneys are diseased, we get a mixed form of retinitis that from the ophthalmoscopic picture is difficult to determine. The chief point in differential diagnosis consists in hæmorrhages into the vitreous, held to be common in diabetic retinitis and not so in retinitis from kidney-lesions. In the five cases of the author vitreous hæmorrhages were present in all, and the symptom is thought to be of much importance in arriving at the diagnosis of glycosuric retinitis from the ocular symptoms alone.

Concerning diabetic amblyopia, the danger of confounding it with alcohol and tobacco amblyopia is emphasized, with the consequent necessity of a urinary examination, without which a differential diagnosis is impossible. A firm conviction is

expressed that the amblyopia occurring in smokers having diabetes is due to the loss of nutrition produced by that disease, and not to the effect of tobacco upon the system. Of the four cases of the author, all had each eye affected, all had perfect visual fields, and all scotomata for red and green. Two were men, and smokers, and two were women, non-smokers. No autopsy was allowed, and the conditions of the optic nerve are therefore not known. The following is the author's summary:—

1. In view of the recorded facts, shall we not urge the examination of the urine for sugar in every obscure ocular affection?

2. Cataract occurring in a diabetic may be extracted without danger if the patient is previously treated for the general disease.

3. Retinitis occurring in diabetes is usually associated with vitreous hæmorrhages, and this is a point in favor of the disease rather than retinitis from kidney affection.

4. Diabetic amblyopia is usually associated with central color scotoma for red and green, with visual fields intact, and does occur independent of amblyopia from tobacco and alcohol, as shown by our cases. And, further, diabetes can be diagnosticated by amblyopia when no diabetic symptoms exist.

Ueber die Alkaleszenz des Blutes bei Krankheiten.—V. Jaksch; *Zeitschr. f. Klin. Med.*, Bd. 13, Heft. 3 and 4.—The following were the results obtained from very numerous observations conducted after the method of Landois:—

1. Fever leads always to more or less reduction of the alkalinity of the blood.

2. This symptom is constantly present in uræmia.

3. Liver diseases, which lead to destruction of its substance, give rise to this symptom.

4. Leukæmia always is followed by reduction of the blood, and a similar result is seen in pernicious anæmia and chlorosis.

5. CO poisoning appears, in conformity with H. Meyer's investigations, to cause diminution of the alkalinity of the blood.

Neuere Arbeiten auf dem Gebiete der Nierenphysiologie.—J. Munk, *Deutsche Medicinische Wochenschrift*, Jan. 3, 1889.—Munk has experimented with freshly excised kidneys. The

fluid obtained from such kidneys he believes to be a true secretion because it contained far more urea, sodium chloride, &c., than the circulating fluid.

He found that increased arterial pressure only caused increased secretion when it was accompanied by increased velocity of the circulation, and that the functional activity of the renal epithelium was the most important factor of secretion. All ordinary diuretics, except digitalis, *e.g.* common salt, saltpetre, caffeine, sugar, glycerine and pilocarpine, cause widening of the renal vessels and slowing of the blood stream, so that the diuretic effect must be due to their direct action on the renal epithelium.

The widening of the vessels was shown to be due to direct action of urea and caffeine on the circular muscle of the arterioles, as it occurred in the vessels of a kidney which had been kept in ice 24 hours, and whose nerve fibres and ganglia had long lost their excitability. He also proved, in opposition to Schmiedeberg and Bunge, that the red blood corpuscles only play the part of oxygen-carriers in the synthesis of hippuric acid from benzoic acid and glycocoll.

By further experiments it was proved that the less arterial blood passed through the glomeruli in a given time, the more albumen appeared in the urine.

Increase of venous pressure diminished the secretion of urine and the percentage of urea, but did not affect the percentage of common salt, while the proportion of albumen was doubled.

Munk thinks the results of these experiments agree with the theory of Bowman, *viz.*, that water and a part of the urine salt (common salt, &c.) are excreted by transudation through the glomerular loops, only it is not so much the arterial pressure as the velocity of the blood stream that governs the transudation. The specific urinary salts (urea, uric acid, &c.) and some other salts (phosphates, &c.) are secreted by the activity of the epithelium of the convoluted tubes, but as they must be secreted in a soluble form, a part of the water must pass out through the epithelium. Certain diuretics (nitre, caffeine) stimulate the activity of the epithelium and increase its secretion of water and salts.

SURGERY.

BY GILBERT BARLING, M.B., B.S., LOND., F.R.C.S.

Penetrating Gunshot Wound of Abdomen, Wound of Intestine and Faecal Extravasation, Laparotomy; Intestinal Suture; Recovery.—(*Annals of Surgery*, October, 1888).—The patient, aged 19 years, was treated by Henry Sherry, M.D., of Chicago. Four hours after the injury, which was produced by a revolver bullet, No. 38 calibre, the patient had a somewhat quickened respiration, a temperature of 101.8° F. and a tympanitic abdomen presenting a ragged edged wound two-fifths of an inch in diameter, three inches to the right of and one inch below the umbilicus. Posteriorly, the bullet could be felt just beneath the skin two and a half inches to the right of the vertebral spine and on a level with the wound of entrance. A median incision three inches in length and passing upward through the umbilicus was made and the omentum and intestines pushed aside till the ascending colon was reached, which was found blood-stained and ecchymotic for several inches. When this part was brought to the surface three perforations were found, distant from each other about an inch, and through the central one faecal matter oozed. The edge of each perforation was trimmed with scissors, and each was then closed with three interrupted catgut sutures. The wound of exit was not found. The patient was considerably depressed, but revived under the influence of the hot water intra-abdominal douche. The wound of entrance was irrigated and the abdominal incision was closed, except at the lower angle where an india-rubber drainage tube was placed. For the first nine days only ice was given by the mouth, the patient being nourished by enemata. The drainage tube was removed on the third day, and the bowels acted on the fourth day without any hæmorrhage. At the time of the operation the bullet was left undisturbed, but it subsequently gave rise to some irritation, and some fragments of ileum came away. In reviewing his case Dr. Sherry considers that it would have been better to have

made the line of incision through the wound of entrance, as the course of the bullet was known with so much certainty, and feeding by the stomach ought not to have been delayed beyond the fifth day. Although the interrupted suture was used, preference is expressed for the continuous suture. Complete recovery was delayed until the end of three and a half months.

Bulletins et Mémoires de la Soc. de Chir., Nos. 7 and 8, contain an account of a case of epithelioma of the larynx, for which total ablation was performed. The patient, a man aged 52, was sent to M. le Dentu with a diagnosis of syphilitic cedema of the glottis, for which immediate laryngotomy was performed. The diagnosis was amended shortly to malignant disease, and extirpation of the larynx was proposed, but declined by the patient. He came under observation again four months later with the growth much increased, with malignant granulations around the cannula, and with the skin involved, but without evident gland infection. Extirpation was now accepted, and a low tracheotomy was performed eleven days before the major operation. Two transverse incisions were made over the hyoid bone and above the tracheal cannula, and these two were joined by curved incisions with a concavity inwards, going wide of the cutaneous involvement. Separating the trachea, it was found that a strip was adherent to the œsophagus and pharynx; these portions were removed with the thermocautery, the scalpel and scissors being used for other parts. The epiglottis was removed, as it was involved. The opening in the œsophagus was but a little above that in the trachea, and a tube was placed in it from the wound in the neck. Iodoform gauze was used as a dressing, and the tamponned cannula was allowed to remain. The operation was well borne, and a good recovery followed; but a month later recurrence was noticed in the hyoid region, and the patient died four months after the excision. The autopsy showed complete absence of generalisation. The statistics of Haber and of Hache on partial and complete extirpation of the larynx are compared and criticised; those of the latter show much the better results. Of 105 complete extirpa-

tions 43 died as the result of operation. M. le Dentu concludes that we are not justified at present in condemning complete excision, and that we need more experience, derived from earlier operations.

In the same journal is an account of a case of Lymphosarcoma involving the Ileo-cæcal region of the intestine for which resection and immediate suture was successfully done by M. Bonilly. The patient, a female, aged 44, had suffered from pain and vomiting for about five years, but never from melæna. She noticed a lump in the iliac fossa eight months before the operation, and this on examination was found to be fixed at the deep surface, but moveable under the skin, and not implicating the pelvis, the crural arch or the crest of the ileum. The section was made in the middle line, and the tumour, as large as a fist, was readily brought up to the wound. To prevent fæcal extravasation the intestine was constricted by a silk thread placed on each side of the growth, to prevent anything escaping from the part resected, a pair of forceps was placed on each side of it and the line of section passed between the silk thread and the forceps; the piece removed included 6 c.m. of small, and 10 c.m. of large intestine; four mesenteric glands were also removed.

The intestine was sutured after the Lembert-Czerny method, but the mesentery was left unsutured. The whole operation lasted 1½ hours and the patient suffered little from shock. Recovery was somewhat slow as a small fæcal fistula formed, but at the end of seven months the patient remained well. The strictured intestine would hardly admit the little finger.

SKIN DISEASES.

BY ROBERT M. SIMON, B.A., M.D. CANTAB., M.R.C.P. LOND.

Xanthoma Diabeticorum.—The first paper in the *British Journal of Dermatology* is by Dr. Thomas Barlow on the above subject. Dr. Barlow was consulted by a diabetic whose skin was moderately harsh and rough, and who also had two or three indolent boils on the shoulders and nates. The peculiarity of the case was the existence in the abdominal wall, on the front and sides of the thorax, and also on the back of a large number of broad flattened papules and tubercles. These were most abundant on each side of the sternum, and were of the average size of a split pea, but there were some one third of an inch in diameter; they were round, sharply circumscribed, and very little raised above the surface of the skin, and were in fact like firm, solid discs embedded in the skin proper, and free from attachment to deeper structures, so that they could be pinched up with the skin, but the skin could not be rolled over them. There was no evidence of inflammation, no signs of central spots or vesicles, and the colour of the skin over the spots was quite unchanged. There was no pain or irritation in connection with the lesions, and no glandular enlargement. The spots had appeared six months before diabetes had been discovered, and several had appeared, enlarged and finally disappeared. There were no similar spots in the eyelids, or in the mouth, nor was there any abnormal deposit of pigment on any part of the body.

A similar case was recorded by Addison and Gull in their original paper on Vitiligoidea, in which the eruption consisted of scattered tubercles of various sizes, together with shining colourless papules. When incised they were found to consist of firm tissue which, on pressure, gave out no fluid save blood. They were of a yellowish colour, mottled with a deepish rose tint, and with small capillary veins here and there ramifying over them. The eruption continued almost stationary from the end of January to the beginning of March, when many of the tubercles

began to subside, leaving no obvious change in the texture of the skin.

Dr. Bristowe recorded in 1866 a similar case, occurring in a diabetic, as a rare form of keloid. Microscopic examination showed the lesions to be made up of dense fibrillated material with various-sized oil globules.

Mr. Malcolm Morris, again, in 1883, showed a similar condition occurring in a diabetic patient, who also had small papules on the tongue and mucous membrane of the mouth. Blood only escaped when they were incised, and microscopic examination showed small nodules in the corium of oval fusiform cells lying in a slightly fibrillated connective tissue matrix.

Dr. Crocker and Dr. Sangster reported on Mr. Morris' case, and drew attention to the following points in his and the allied cases :—(1) The sudden evolution and involution of the eruption ; (2) the firm and solid character of the lesions, instead of being soft, as in true xanthelasma ; (3) the fact that some of the lesions only were yellow, and these only at the top, while in xanthelasma all the lesions are coloured some shade of yellow throughout ; (4) the absence of patches or striæ, such as are generally present in true xanthelasma ; (5) the absence of jaundice ; (6) the difference of the microscopic appearances from those observed in xanthelasma.

Dr. Barlow concludes, from an examination of his own and the above-mentioned cases, (1) that the skin lesion in his own case, despite the absence of yellow pigment, properly belongs to the same group as those described under the head of xanthoma diabeticorum ; (2) that the presence of yellow pigment in that group is adventitious and non-essential ; (3) that the title xanthoma, as applied to the group, is not justified. He suggests that the name *lichen diabeticus* is to be preferred, and that such title may be taken to designate a special form of papular skin lesion occurring in diabetic persons ; this lesion being sometimes pigmented and sometimes not, but having the common character of appearing in crops, enlarging, remaining stationary for a time, and ultimately undergoing spontaneous involution.

Symmetrical Purple Congestion of the Skin in patches with induration.—By Jonathan Hutchinson, F.R.C.S., *British Journal of Dermatology*.—Mr. Hutchinson was consulted by a healthy looking farmer, aged 65. The backs of his hands were of a deep purple tint, but without thickening of the skin. The right ring finger alone of the fingers was similarly affected, and this the patient attributed to an injury received ten years before. The skin over the ankles and the dorsal surfaces of the feet was dusky, purple, and thickened, but the bands of thickening were somewhat irregularly placed. The backs of his elbows, the fronts of his wrists, and the parts in front and behind his knees were involved in similar changes.

The boundaries of the affected parts were ill-defined, and little cords, like hardened lymphatics or small veins, ran upwards from the diseased parts. In every other respect the patient was healthy. Mr. Hutchinson inclines to the opinion that the injury to the finger set up a local process of inflammation, which resulted in permanent dilatation of the small veins, and the development of an infective material which found its best nidus for growth in the exactly corresponding parts of the opposite limb.

Just as with the finger, so with the leg; an injury five years earlier was supposed to be the starting point of the disease.

Mr. Hutchinson has only seen two well marked cases of this congestion with board-like diffused induration in his own practice, and the photograph of a similar case in the University Museum of Christiania.

Lactic Acid in the Treatment of certain Tubercular Affections of the Skin and Mucous Membranes.—Rafey (*Lyon Médical*, 1888).—Eight parts of lactic acid are mixed with two parts of water. The solution is applied every day by means of a brush; no scarification of the tissues results, but the base clears up slowly, the more or less caseous débris which lines the ulcer disappears by degrees, the wound behaving like an ordinary sore. Two cases of lupus were cured in from one to six months, and two of tubercular ulceration of the tongue in from one to two months.

Menthol in Pruritic Affections.—(*Deutsche Med. Wochenschrift*, No. 46, 1888).—The following preparations of menthol are recommended by Dr. Saalfeld :—

1. Menthol 22 to 37 grains
Spir. Vini Rectificati . . 3 iss
M. ft. lotio.
2. Menthol 37 grains
Olei Olivæ 3 ij—3 iij
Lanolin 3 iss
M. ft. unguent.
3. Menthol gr. 48
Balsam Peruviani . . . gr. 96
Unguent Zinci Benzoate
Lanolin pur aa ad. . . 3 ij
M. ft. unguent for use in scabies.

Chromidrosis.—(*British Medical Journal*, Jan. 5th, 1889.)
Dr. A. W. Foot records his examination of 46 genuine cases reported between 1709 and 1888. Six of these occurred in men, the other forty in women.

If the views of Meissner and Unna were correct that the coil of the sweat glands secreted fat, and the end of the duct sweat, disorder of the coil glands would account for all the phenomena.

Dr. Foot believes that the pigment was due to oxidation of the indican eliminated by the cutaneous glands. Its preference for the face he explains by the free exposure of that part to the great oxidising influences of air, light and heat. Some ferment also might operate in effecting the conversion of soluble colourless indican into indigo blue or bronze. The possibility of a bacterial origin was not to be overlooked, as the source of the colour in "blue milk" was often the *B. cyanogenes*, and in red sweating bacterium *prodigiosum*. The indican he considers was derived from the absorption from the intestinal canal of small quantities of indol. The frequency of constipation in chromidrosis, the sudden disappearance of the colour after purgation, its diminution after regulation of the bowels, and the

general aversion to animal food exhibited by the patients, were facts which made in the direction of this view. The proportion of indican in the urine increased *pari passu* with the amount of exudation on the face, and vice versa.

Hoffmann had detected indigo in the bluish-black exudation, and after reducing the pigment to indigo white, it was seen to regain its colour by exposure to the air.

REPORTS OF SOCIETIES.

MIDLAND MEDICAL SOCIETY.

February 6th, 1889.

HUGH KER, F.R.C.S. Ed., President, in the Chair.

Two Rare Cases of Paralysis.—Dr. Headley Neale, of Leicester, read a paper upon two rare cases of paralysis. Of the first he would not commit himself to a positive diagnosis. The patient had been under surgical treatment for two months with a chronic ulcer of the leg, caused by a kick from a horse, and was then transferred to the author's care; marked paralysis and atrophy of the extremities having rapidly developed themselves. He could not stand up without support, his gait was ataxic, and muscular inco-ordination generally present. The treatment consisted in full diet, but no medicine for a fortnight, after which cod liver oil and Easton's syrup were exhibited, and the affected muscles faradised daily with a minimum current. Weight on admission was 10 st. 6, showing a loss in the two months of 16 lbs.; with the dynamometer he could only register 20 with each hand. Complete recovery was established in 87 days, and on his discharge the patient had recovered his normal weight of 11 st. 8, and could register 90 with each hand.

The second case was regarded as a typical example of the "Acute Ascending Paralysis of Landry." The patient, a farmer, began to feel unwell on the morning of April 12th, 1887. The same evening, while drying his face with a towel, "his legs gave way under him" and he fell to the ground. He was seen in consultation by Dr. Neale on the 12th and was found to be perfectly calm and collected, able to describe his attack, but speech was slow and interrupted, breathing purely costal in type, showing that the phrenics were already implicated. Lower extremities almost completely paralysed, the upper ones partially so. Sensory and tactile impressions unimpaired, patellar reflexes absent, but no loss of control over bladder and rectum. Temperature subnormal, moist râles present in both lungs. The bulbar symptoms dictated an unfavourable prognosis, and the patient died of asphyxia within four days from the first onset of symptoms.

Idiopathic Tetanus. — Dr. Neale also described a case of "Idiopathic Tetanus," followed by recovery, occurring in a delicate boy of twelve, who, after getting heated in play, had lain for some time upon "hassocky" grass. Four days later he could only open his mouth to the extent of half an inch, intense pain accompanying the effort. Aching pains all over the body, rigidity of the limbs, snapping of the jaws in sleep (whereby the tongue was severely bitten), profuse sweating, the risus sardonicus, and a general condition of "orthotonos" placed the diagnosis beyond doubt. The exhibition of full doses of chloral hydrate and bromide of potassium, and constant alimentation with pre-digested liquid food, resulted in complete recovery. The case was seen in consultation by Mr. C. J. Bond, and absolutely no breach of continuity of surface could be detected, nor was there any history of a wound.

Varicosity of Abdominal Veins. — Dr. Suckling showed a man aged 47 with enormous varicose enlargement of the superficial abdominal veins due to portal obstruction. The man had been a soldier and served in India for many years. He contracted

syphilis in 1858, having a sore and gonorrhœa, with suppurating buboes, but no further symptoms. When in India he was in the habit of drinking rum to a great extent, and he had two attacks of jaundice. He seems to have had dysentery also when abroad, and ever since has been liable to attacks of diarrhœa on exposure to cold. He has never vomited blood, or passed it in his stools. Six years ago he noticed a small bluish swelling in the epigastric region just below the ensiform cartilage, and as this swelling increased he noticed that the superficial veins were getting large. It was two years later before he noticed the large veins running down to the groin, the upper trunks being first observed. He states that when he has diarrhœa, or lies in bed, the swelling diminishes. The tumour causes him no pain. He has never had any swelling of the legs or enlargement of the veins of the legs, nor has he ever had any swelling of the abdomen. The liver cannot be palpated or percussed in front, and there is no tenderness on pressure over the hepatic region. The spleen is considerably enlarged, projecting for at least two inches below the costal margin. In the right infrascapular region the liver dulness is present as a narrow strip two inches wide following the course of the seventh and eighth ribs into the axilla where there is scarcely any dulness. In the epigastric region there is a large nodulated mass of varicose veins, extending from the ensiform cartilage to one inch above the umbilicus. The tumour is seven inches long and five inches broad. At the two sides, about the middle, two large and tortuous veins (enlarged superficial epigastric) join it. These can be traced to the saphenous vein over the upper part of the thigh. Pressure on them above causes a diminution in their size below and an increase in the size of the tumour. Another large tortuous vein (vein of Sappey) runs from the right side of the tumour across the costal margin and disappears in the sixth space close to the sternum. The blood in this is running from the tumour. Pressure on the tumour reduces its size, and it at once swells up again on removing the pressure. There is no pulsation, but a loud continuous venous hum, altered by pressure, can be heard over the swelling, and a few patches of fine capillary injection are scattered

over it. On palpation, a peculiar thrill can be perceived. The great enlargement of the superficial veins in this case explains the patient's escape from ascites and the various hæmorrhages usually observed in cirrhosis of the liver, and undoubtedly explains also the man's escape from death. He is delicate and feeble but otherwise suffers no inconvenience, and is now almost a total abstainer.

Rheumatic Nodules.—Dr. T. Stacey Wilson exhibited a child who showed, in a typical way, the small rheumatic nodules and the frequently associated symptoms of chorea and endocarditis, as described by Drs. Barlow and Warner at the International Medical Congress of 1881. The main point of interest about the case was the association of symmetrical ganglia of the extensor tendons with the above conditions, thus indicating the occasional rheumatic origin of ganglia. There was a ganglion on the back of the left hand of considerable size, and a smaller one in a corresponding position on the right hand. There was also another over the tendon of the right tibialis anticus just before its insertion. Both the nodules and the ganglia had already begun to diminish in size after three days treatment by means of iodide of potassium internally, although there was a history of the former having been noticed for the last six weeks, and the latter for about two or three weeks.

Dr. Stacey Wilson also exhibited gelatine casts of the hands of another patient who had these rheumatic nodules.

Changes in Vessels after Amputation.—Dr. A. E. Mahood exhibited the upper end of a right femur, the iliac arteries and great sciatic nerve, obtained from a subject in the dissecting room of the Queen's College. These specimens showed in a marked manner some of the changes which took place after amputation through the upper third of the right thigh. The common iliac artery of the right side, with its branches, was much diminished in calibre, the following being the external diameters of the several arteries after injection :—

Right common iliac,	7·5 mm.	Left,	10·5 mm.
„ external	„ 5·5 mm.	„	9·5 mm.
„ internal	„ 5·5 mm.	„	8·0 mm.

Large Fatty Tumour.—Mr. Augustus Clay showed a lipoma, weighing $3\frac{1}{2}$ lbs., which he had removed from the upper third of a man's thigh. The tumour had been growing for 25 years, was undergoing calcareous degeneration in its centre, and had commenced to ulcerate through the skin at its most dependent part.

BRITISH MEDICAL ASSOCIATION.

BIRMINGHAM AND MIDLAND COUNTIES BRANCH.

The fifth General Meeting of this Branch was held in the Medical Institute on Thursday, February the 14th. The President, Dr. THURSFIELD, took the Chair.

The minutes of the last meeting were read and confirmed, and the following Members of the Association were elected Members of the Branch :—Messrs. Wm. Huey, Wm. Growse, C. H. Sharpe.

Fibrous Pharyngeal Polypi.—Dr. Warden shewed some fibrous polypi which he had removed from the under surface of the soft palate.

Double Pyosalpinx.—Mr. Tait shewed the uterus and appendages which he had removed for myoma and double pyosalpinx. The case had been sent to him by Dr. Fairlie one month before, he having diagnosed a simple myoma occupying the pelvis loosely, and he requested Mr. Tait's opinion as to what should be done. From the size of the tumour, from the fact that it was perfectly free in the pelvis, and that the patient's age was 45, Mr. Tait gave the opinion that no operative interference would be necessary, and he heard no more about the case until he was suddenly summoned by Dr. Fairlie to see her. Dr. Fairlie informed Mr. Tait that he had been suddenly summoned on account of a violent attack of pain with symptoms of fever, which kept her in bed for a week. To Dr. Fairlie's surprise he found the condition altogether altered; that the tumour was perfectly fixed

in the pelvis, enormously increased in size, and reached well above the pelvis; whilst the patient's temperature was 104° and her pulse 140. The physical signs gave clear indications of encysted fluid on both sides of the hard central mass. The conclusion was unavoidable that sudden and violent suppuration had occurred in the uterine appendages. The patient was removed without delay to Mr. Tait's private hospital, and abdominal section forthwith performed. On opening the abdomen it was at first quite impossible to form an opinion what the real state of matters was, everything was pulpy and adherent. Selecting the left side as the point to commence at, Mr. Tait separated numerous adhesions of omentum and intestines to the mass in the pelvis, when a sudden gush of foetid pus took place, indicating that a cavity had been opened. From this about half a pint escaped. This proved to be the left fallopian tube and ovary, which had to be carefully separated, being everywhere adherent. The condition on the right side was exactly similar, but the sac here contained quite a pint of pus. Below and behind these two cysts, attached to the left broad ligament, was a cyst which subsequently proved to be dermoid. This was removed, and there remained the uterus, which was enlarged by myomata to the size of a cocoa-nut. The decision as to what was to be done with this had to be rapidly arrived at. Mr. Tait decided to remove it, believing that the immediate vicinity of inflammation so violent and extensive must have seriously compromised the vitality of the growth. The correctness of this conclusion was indicated by the subsequent examination of the uterus, which showed, when cut in halves, that a submucous myoma had already sloughed and was discharging pus into the uterine cavity.

Mr. Tait expressed his conviction that this operation was perhaps the most difficult one that he had ever had to undertake, and it was an admirable instance of the advance made in late years, by prompt action, in abdominal surgery. For a very few hours delay in dealing with this case would have involved certain death, and no other conceivable proceeding could have

secured the prompt and easy recovery which this patient has made.

Carcinoma of Bladder.—Mr. Barling shewed a specimen of carcinoma of the bladder diagnosed with the cystoscope. The patient had never suffered from hæmaturia. The *post mortem* examination verified the diagnosis, and lymphatic gland infection was found. Microscopically the growth was an alveolar carcinoma.

Perversion of Senses of Taste and Smell.—Dr. Warden read a paper on a case of Perversion of the Senses of Taste and Smell.

In the discussion which followed, Mr. Marsh asked if there was any evidence or history of syphilis, and referred to two cases quoted by Sir Morell Mackenzie, in one of which a *post mortem* examination revealed a gumma of the meninges in proximity to the olfactory bulb, which was adherent. The other had symptoms very similar to those described by Dr. Warden (sickness, diarrhoea, intense nausea, etc.). No remedies had any beneficial effect; but complete recovery took place some months after the discontinuance of treatment.

Dr. Saundby referred to the fact that persons who are deficient in the sense of smell may live to a considerable age without being aware of the defect. Althaus has referred to the case of a lady who after death was found to have no olfactory bulbs, but in whom during life no abnormality was known to exist; and Dr. Saundby quoted the cases of a brother and sister who grew up to adult age before they discovered that each was anosmic.

Mr. Vose Solomon said he had suffered at times from some disturbance of his olfactory nerves, a bad odour being present whether he was out or indoors. He was at the time free from any disease of the mouth, or gastric disorder, and he thought that his trouble might possibly be referred to a gouty habit. If he were asked what constitutional disorders were most often overlooked by practitioners, he would say—latent syphilis and suppressed gout.

In his reply Dr. Warden mentioned a case where the anosmia existed only in one nostril. He agreed with Mr. Solomon in

ascribing the condition to a gouty affection probably of the nerve sheaths.

Post-nasal Growths.—Mr. Wright Wilson read some "Notes on Post-nasal Growths," giving a review of a large number of cases in which he had operated.

Mr. M. A. Messiter, in commenting on the paper, referred to the frequency of the occurrence of these growths, especially in children possessing a general susceptibility of the mucous membrane of the respiratory passages. He thought large adenoid growths were uncommon. The use of chloroform is imperative in the case of children during their removal, which may be done by means of the finger nail as well as by an instrument. Volkmann's spoon is better than any other instrument for adults. He referred to a case of his own in which inflammation of the middle ear followed the operation, the patient having undertaken a journey immediately after the operation, and thus caught cold.

Dr. Lewis said that of the two modes of diagnosing this condition, namely posterior rhinoscopy and digital exploration, the former method of examination is, whenever practicable, to be preferred, for by this means we are the better able to distinguish between an extreme but yet physiological development of the pharyngeal tonsil and a commencing hypertrophy, and it is only when this hypertrophy interferes, or threatens to interfere with the functions of the naso-pharyngeal space, that an operation is admissible. The want of distinction between the varied conditions that occur in the vault of the pharynx leads to the too frequent removal of the tissue in this region. Referring to the question of anæsthetics he thought there could hardly be two opinions on the matter, for he spoke from a long experience, having practised the removal with and without chloroform, and he certainly always decided, when practicable, in favour of the latter.

Under an anæsthetic the removal is completed in one operation, while without it requires three or four sittings on an average before we succeed in taking away sufficient of the growth, and then it is a matter of doubt whether the pharynx is so thoroughly cleansed out as to enable one to safely predict that there will be

no further development. If the chloroform is given by an experienced administrator he believed that the operation is absolutely free from risk. Mr. Wilson had made no reference to the all important subject of thoracic deformity so frequently met with as a sequence of these adenoid vegetations. Nor had any reference been made to those diseases met with in childhood which are manifestly due to the reflex irritation produced by the presence of these growths. It is essential, therefore, that the patient be kept indoors and quiet for some time after the operation.

Mr. Marsh mentioned, as an addition to the cases given by Mr. Wright Wilson, a theory advanced by Dr. Greville McDonald, "That chronic rhinitis, by diminishing or closing the nasal passages, interferes with the normal physiological function of the adenoid tissue of the naso-pharynx, viz., the calorification of inspired air, and that, consequently, hyper-nutrition and growth of this tissue results." He considered removal only justifiable if one of two symptoms were caused by their presence—either impairment of hearing or marked buccal respiration. For operating, he preferred Walsham's modification of Loewenberg's forceps, the finger nail being quite inadequate. In children, chloroform should always be administered, unless specially contra-indicated, if only to avoid the struggling and fright, and a thorough clearance made at one sitting. Operating in this way, he had not had a case of recurrence.

Mr. Jordan Lloyd had been in the habit of operating in these cases since particular attention was called to the subject by Dr. Woakes. He always gave chloroform, and preferred to lower the patient's head over the edge of the table. He had operated many times in the sitting posture. He regretted the tendency exhibited by several throat specialists to regard post-nasal growths as the cause of so many naso-pharyngeal maladies.

Mr. Barling drew attention to the frequency with which post-nasal growths are overlooked, and the evil effects on the organs of hearing and respiration; he pointed out also that children suffering from this condition are backward in their mental

development. With regard to the question of recurrence, although it was rare when the growths had been completely removed, yet it did occur if the causes which produced the original trouble were still allowed to influence the patients. He strongly advocated the administration of an anæsthetic when post-nasal growths were removed; but for removal of tonsils an anæsthetic was not only unnecessary but was embarrassing.

REVIEWS.

LECTURES TO PRACTITIONERS ON THE SURGICAL DISEASES OF THE KIDNEY.*

IN an abbreviated form the contents of this volume constituted part of a combined course of post graduate lectures delivered in Glasgow during the autumn of 1886. The subject was suggested by the clinical observation of a number of cases, which, with a careful study of preparations contained in the Museums of the Royal and Western Infirmaries of Glasgow, formed a basis of personal experience. With a view of bringing together a complete collection of operations upon the kidney, a circular was addressed by the author to surgeons, asking them to fill up an accompanying schedule giving certain details of their cases.

The first lecture deals with malposition of the kidney and its varieties; "moving" and "floating" kidney being considered at great length. This chapter, in common with those which follow, is far too lengthy. It is written rather by the school teacher than the working practitioner. We are sorry we cannot

* Lectures to Practitioners on the Diseases of the Kidney amenable to Surgical Treatment. By David Newman, M.D., Surgeon to the Western Infirmary (out-door department), Pathologist to and Lecturer on Pathology at the Glasgow Royal Infirmary, &c. London: Longmans, Green & Co. 1888.

agree with Dr. Newman in the high value he seems inclined to attach to nephrorraphy as a means of treatment for renal mobility.

In the second chapter is considered the general symptomatology of the diseases which are amenable to surgical treatment. Hæmaturia, pyuria, pain and swelling are chiefly discussed. This is the best chapter in the book, and will well repay careful study even by those most experienced in surgical kidney affections.

The third lecture is on the disorders characterised by the accumulation of non-inflammatory fluid—hydro-nephrosis—congenital and acquired, and cystic diseases of various kinds. We cannot agree with the author in regarding cases of dilatation of the ureters such as result from urethral strictures, etc., as examples of hydro-nephrosis. Cases of the former kind constitute a class of disorders altogether different in their symptoms, danger, progress and treatment.

Chapter four takes up the subject of suppurative diseases, all of which are discussed together in a lecture extending to no less than a hundred and eighteen pages. We do not think the division a good one, for the reason that kidney suppuration may depend on conditions so unlike as gonorrhœa and calculus, or the specific fevers or foreign bodies.

Chapter five treats of tubercular disease and injuries, and here is introduced an unnecessary exposition on the "Infective new Formations: their place in Pathological Nomenclature." Such subjects, interesting as they are, should be allocated to works on general pathology, and can be very well spared from the pages of treatises ostensibly written for men actually engaged in practice.

The last lecture, on tumours and operations, is unnecessarily lengthened by a long digression on the general classification of tumours, knowledge which should be possessed by a medical man before he reads treatises on diseases of special organs.

The most disappointing section of the work is that on the "operations." It reads as if the author had but little personal

experience in the subject—a procedure which seems to have claimed more than ordinary attention at his hands. Catheterisation of the ureters by a method of his own, appears to us to be as impracticable as any of those similar manœuvres which have been previously advocated. The various operations are too briefly described to be of any real practical value to a surgeon about to perform them for the first time.

We close the volume with a feeling of relief that we have got through it, and find comfort in the fact that we are not amongst the post graduates who were invited to assimilate the contents of more than four hundred and fifty pages at six sittings. The common failing of most contemporary medical writers is that their volumes are too thickly “padded” with matter which could very well be dispensed with. A volume may be thorough and up to date, but its real merits are apt to be overlooked in the midst of so much that is superfluous.

A SYSTEM OF MIDWIFERY.*

DURING the nine years which have elapsed since the appearance of the last edition of Dr. Leishman's popular text-book the science of midwifery has made quite sufficient progress to justify another edition; we are, however, disappointed to find that the work is not brought altogether satisfactorily up to date.

The chapter on development has been entirely rewritten in accordance with the results of recent researches in comparative physiology, and now forms one of the best accounts of the process we possess. Considerable additions have been made to the subject of pelvic deformities; and to chapter xxix. (the forceps). A section on *Axis Traction* has been added, while a concise account of Porro's operation is given in chapter xxxiii.

* A System of Midwifery. By William Leishman, M.D., Professor of Midwifery in the University of Glasgow, &c., &c. Fourth edition. Glasgow: James Maclehose & Sons. 1888.

In dealing with the subject of extra-uterine pregnancy Dr. Leishman takes a legitimate pride in the fulfilment of his prophecy in an earlier edition of the *system* "that a day may come when an extra-uterine foetation may be ligatured and removed with as great a prospect of success as an ovarian cyst." We are glad to see that he mentions the treatment of the same condition by destruction of the foetus without approval.

On the other hand, there is no reference to the researches of Hart and others in the anatomy of the pelvic floors; and one of the most valuable signs, that of Braxton Hicks, is omitted from the signs and symptoms of pregnancy. No mention is made of chloroform as a cause of *post partum* hæmorrhage, nor of the hypodermic administration of ergot or ergotin in its treatment. The practitioner is advised, in cases of threatened asphyxia of the newly-born infant, to leave the cord intact till pulsation ceases; a much better practice is to divide it at once, and allow a few drops of blood to flow from the foetal end before applying the ligature.

The chief defect in the book, it appears to us, is the chapter on the Cæsarian operation; in which no mention is made of the German improvements in the operation, nor of the improved statistics both of English and foreign surgeons; the percentage of deaths given (85) being, in fact, more nearly that of recoveries.

The chapters on the puerperal state, lactation and management of the newly-born child are very practical and useful, and altogether the system maintains its pre-eminence as a practitioner's hand-book. There are several new illustrations though there is no increase in bulk, and the necessary condensation is an improvement to the style; while the division into two volumes is a great convenience.

EPITOME OF SURGERY.*

THE title explains the scope of this book, which is mainly intended as a Remembrancer for students just prior to examinations. It is useless to condemn such compilations, as there is a demand for them which will assuredly be supplied, and we are able to commend this as being on the whole better than its competitors. It is however ridiculous to use the term "complete compendium," seeing that all notice of diseases of the ear and of the operative treatment of diseases of women has been omitted. It strikes one in places that the author is not very familiar with some of the matters he writes on. For instance, it is not only unnecessary to anaesthetize children for excision of tonsils, but foolish, as a simple and easy operation is made somewhat difficult; and the tonsil guillotine is infinitely preferable to the bistoury and vulsellum. Excision of the thyroid gland should hardly be described as "very dangerous, from the vascularity of the growth;" and the statement that "the tumour must be separated by the handle of the scalpel without opening the capsule" is not an intelligible description of the procedure.

In describing the treatment of intra-peritoneal rupture of the bladder, Dr. Dale does not seem to have grasped the important points, which are—(1) washing out the abdomen, (2) the use of Lembert's suture, and (3) extreme care to prevent leakage at the angles of the rent. Again, in a student's manual, when treating of retention from enlarged prostate and of residual urine from the same cause, the use of the india rubber catheter should be *insisted* on. No point in a student's education is more vital; here it is hardly mentioned.

In future editions it would be better to re-arrange some of the articles, so as to give due value to contending methods. As an instance, we may point to the radical cure of hernia.

* Epitome of Surgery: being a Complete Compendium of the Science and Art of Surgery. By Robert Dale, M.D., M.R.C.S.E. London: H. K. Lewis.

The open operation—that which is most efficient and most widely adopted—is dismissed in four lines ; whilst an obscure, obsolete method, such as Wood's, occupies fifty times the space.

ON THE SURGERY OF THE KNEE JOINT.*

WE have here two addresses delivered to the West-London Medico-Chirurgical Society. The first is mainly concerned in pointing a contrast between the surgery of the knee-joint of some years ago and that of to-day. Ten years ago, says Mr. Keetley, "the rich man with chronic knee joint disease who submitted to operation was little better than a fool, while the poor man who was operated on to enable him to earn a living for himself and his family was a hero ;" whereas now the joint may be opened, erased, excised, or the limb amputated, even in middle-aged patients, with no serious risk to life. Stress is laid upon the necessity of a *thorough* removal of the soft tissues involved, upon the advantages of a transverse incision, and upon the virtues of iodoform dressing, which "has a really specific influence on the tuberculous materies morbi."

In the second lecture the importance of early diagnosis as the basis of early and successful operation is insisted on. The opinion is expressed that when once the abdomen is opened, it is almost always easy to speedily discover the exact nature, locality, and anatomical extent of the trouble which causes intestinal obstruction ; but we doubt if this is an opinion shared by surgeons generally. The author is a strong advocate for exploratory incision of the abdomen. He goes so far as to say better twenty barren explorations than that one genuine case of intestinal obstruction should be allowed to perish.

* On the Surgery of the Knee Joint, and the Responsibility placed on the Physician and General Practitioner by the Modern Progress of Surgery. By C. B. Keetley, F.R.C.S. London : Ballière, Tindall and Cox.

MASSOTHERAPEUTICS.*

THE fact that four editions of this little work have been called for in two years shows the great interest taken in the subject, and the high estimation in which the book is held by the profession. Dr. Murrell has, we think, rightly employed the term "massotherapeutics;" and he justly protests against the indiscriminate use of "massage," and against the crowd of masseuses and masseurs who, armed with certificates from certain hospitals, flood the country and, by their ignorance of the art of real massage, bring it into disrepute. The present volume is far more substantial than its predecessors, and contains 230 pages. Moreover, its value is greatly enhanced by several illustrations showing the various methods of performing massage. The history of the art is well narrated, and its distinction from mere medical rubbing, shampooing, the Swedish and the Zander systems is emphasised. In opposition to many writers Dr. Murrell recommends dry massage, *i.e.*, without the use of any oil or liniment. The proper duration of the séance he fixes at from ten to fifteen minutes. This is undoubtedly the proper length of time for each performance, whereas the average time given by the ordinary masseur, and often expected by the patient, is at least one hour! We have frequently found patients excessively fatigued and rendered worse by an hour's massage. Dr. Murrell rightly advises medical men to give explicit directions and to supervise the operator, and not to leave the methods to be employed and the parts to be treated for his selection. Dr. Murrell is to be congratulated on producing such a useful handbook, which will, it is to be hoped, tend to save the art of massage from the ill-repute into which it has shown signs of falling.

* *Massotherapeutics: or Massage as a Mode of Treatment.* By William Murrell, M.D., F.R.C.P. Fourth edition. London: H. K. Lewis.

ATLAS D'EMBRYOLOGIE.*

THIS is a book which will be very useful to teachers and advanced students. The author's plan has been to select from his own collection typical specimens, and have them reproduced in order, to the number of 652 figures. The work is thus an atlas in the true sense, the text being reduced to the minimum necessary to render the plates clear. The figures follow one another in regular order from the formation of the ovum, its impregnation, segmentation through its later development. They are beautifully executed, and clear without being diagrammatic. A small figure of the embryo is given in every plate, on which are marked the exact positions of the sections figured, a method which adds very much to the usefulness of the book. An introduction contains instructions for artificial incubation, and for the extraction and preparation of the embryo.

The book, which is to be succeeded by others dealing with the mammalia and man, reflects the highest credit on all concerned in its production.

HUNTERIAN LECTURES ON TENSION.†

THESE lectures on tension appeared in full in the *Lancet* and *British Medical Journal* at the time they were delivered before the Royal College of Surgeons of England during the past year. We are pleased to find them reprinted in book form, for they will bear reading and re-reading over and over again. There is a ring of truth about them which we miss in those volumes which are written to order by authors with limited practical experience. Bryant has made the subject of tension almost peculiarly his own, and surgeons will do well to accept the dicta laid down in this reprint for their guidance in those conditions which are here dealt with.

* Atlas d'Embryologie. Par Mathias Duval. Paris: G. Masson. 1889.

† Hunterian Lectures on Tension, as met with in Surgical Practice, Inflammatory Bone, and on Cranial and Intracranial Injuries. By Thomas Bryant, F.R.C.S. London: J. and A. Churchill. 1888.

Miscellany.

A YORKSHIRE VERDICT.—A genial and well-known authority on lunacy, who unites with his higher qualifications the accomplishment of telling a good story, and telling it well, relates his experience of a Yorkshire jury at the first inquest that was held after he was appointed to the charge of one of our large Yorkshire asylums. He was naturally a little nervous about the result; he was young, and coroner's juries sometimes say disagreeable things. At length the case was ended; the coroner summed up, the jury conferred and brought in a verdict "that the deceased came by his death from natural causes, but"—and here the superintendent's heart stood still while he listened to the rider—"but as this is the first time the jury have met the new superintendent they think he should give them some beer."

TRANSATLANTIC JOURNALISM.—This is the easy and elegant style in which the editor of the *Medical Age* (Detroit, Michigan, U.S.A.), vents his spleen on a brother editor, perpetrates an excellent commercial puff, justifies the staple product of the Western States, and vindicates his Christianity.—"Daniel, of the *Texas Medical Journal*, doesn't like pork. He thinks Moses knew more of the quadruped in his day than all the sanitarians of the present generation. But the grand old man didn't know anything about Armour's hams, or how they go with the fruit of the hen. No, brother, the hog is here to stay, and you cannot drive him out with the pen. He has fully persuaded many a modern Jew to be Christian enough to take to him kindly, Moses and Daniel to the contrary, notwithstanding."

"BE me sow!, " exclaimed Mrs. Finnegan, "Everything is blamed on the poor Oirish nowadays. Wud yez belave it, Pat? They do be sayin' that an Oirishman gave the people in the sout' the yaller faver—a felly be the name av Mike Robe."—*America*.

DENTIST—"Mr. Doppenheimer, you won't feel me pull the tooth. The gas will make you insensible. You won't know what's going on." Doppenheimer—"Ish do so? Well, I dinks I coomes to-morrer." Dentist—"But why not let me pull it to-day?" Doppenheimer—"Well, I don' yoost know how much monish der wash in my pocket-book."—*Life*.

New Books, etc., Received.

- The Skin Diseases of Infancy and early life. By C. M. CAMPBELL, M.D., C.M. Edin. London: Baillière, Tindall and Cox. 1889.
- Psycho-Therapeutics, or Treatment by Sleep and Suggestion. By C. LLOYD TUCKEY, M.D. London: Baillière, Tindall and Cox. 1889.
- Diabetes, its Cause and Permanent Cure. By EMIL SCHNEE, M.D. Translated from the German by R. S. TAFEL, A.M., Ph.D. London: H. K. Lewis. 1889.
- Congestive Neurasthenia, or Insomnia and Nerve Depression. By E. G. WHITTLE, M.D. Lond., F.R.C.S. Eng. London: H. K. Lewis. 1889.
- Treatise on Diseases of Women. By ALEXANDER J. C. SKENE, M.D. London: H. K. Lewis. 1889.
- Second Annual Report of the Ophthalmological Department of the State Hospital at Norris Town, Pa., for the year 1887.

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ORIGINAL COMMUNICATIONS.

ON THE LOCALISATION OF INTRACRANIAL
LESIONS.

BY J. T. J. MORRISON, M.A., B.C., F.R.C.S.;
CASUALTY SURGEON TO THE QUEEN'S HOSPITAL, BIRMINGHAM.

TEN years ago, Dr. Ferrier, in delivering the Gulstonian Lectures before the Royal College of Physicians, spoke as follows:—"In these lectures I propose to discuss a question which is at present attracting considerable attention in the world of physiology and medicine, viz., whether different regions of the cerebral hemispheres have different functions, and whether, therefore, the symptoms of cerebral disease vary with the locality of the lesion."

The revolution of a decade has so completely modified the position of this subject, that the localisation of encephalic functions may no-longer be spoken of as a question: it has entered the domain of fact; though in matters of detail a vast amount of work still remains to be accomplished. No small share of the credit due on account of the additional knowledge which has brought about so satisfactory a change, belongs to the distinguished physiologist and physician whose words I have quoted, and whose achievements will be an enduring monument to the name of David Ferrier in the annals of medical science. His earnest labours in the interests of humanity and of knowledge,

exposed him to the obloquy of some whose benevolent motives were worthy of a better crusade, and who have perforce retired from the field with but little success, that defeat having overtaken them which was desired by Abraham Cowley more than two hundred years ago for others in very analogous circumstances,

" Who would to laughter or to scorn expose
So virtuous and so noble a design ;
So human for its use—for knowledge so divine ! "

HISTORICAL RETROSPECT.

It is a surprising consideration that in regard to brain localisation, it was but yesterday, as it were, that we came into the possession of scientific knowledge of any practical utility for life-saving purposes. Although it was an observation as old as the time of Aretæus that disease of one hemisphere was associated with paralysis of the opposite limbs, yet little or no advance towards an explanation of this curious fact was made until the first quarter of the present century had expired. Unquestionably, the discovery of the differential functions of sensory and motor nerves by Charles Bell, and of reflex action by Marshall Hall, in the earlier part of the century, had greatly expanded the field of neurology ; but it was not until 1825 that Bouillaud, of Paris, had sufficiently safe ground for attributing the faculty of language to the frontal lobes—a very broad generalisation, but nevertheless marking a forward step in the physiology of the brain. Bouillaud was animated in an unusual degree by the philosophical spirit. He laid hold of such facts as came within his ken, and where these appeared to be contradictory, he was content to calmly await the fuller solution which he was assured would ultimately be forthcoming. Let me give one quotation from his writings (*Traité de l'Encéphalite*):—
" Even though we should admit that certain errors had been made as to the localisation of the seat of the lesions causing paralysis, yet it remains an established fact that there exist in the cerebrum several motor centres. The plurality of motor centres is, in fact, proved by the occurrence of limited paralysis,

corresponding to a local alteration in the brain ; for it is evident that, if this organ did not contain different centres or conductors of motor impulses, it would be impossible to conceive how a limited lesion could produce a limited paralysis, leaving all other movements intact. I am well aware that the preceding propositions appear at variance with the results of experiments on animals. It is certain that after the ablation of the cerebral hemispheres an animal may walk, run, move its jaws, eyes, eyelids, &c. ; and it is no less certain that an alteration of the cerebral hemispheres in man gives rise to a paralysis more or less complete of voluntary motion on the opposite side of the body. Can we refute the one set of facts by the other? No, certainly not ; for facts equally positive are not susceptible of refutation. A time will come when new light will dispel the apparent contradiction which exists between them." The admirable temper of these sentences justly entitles their author to our regard, and is worthy of imitation by all students of nature. The prophecy has been amply verified by its fulfilment.

In 1836, Marc Dax, another French physician, made a distinct advance by shewing that aphasia was caused by disease of the left hemisphere, in the vicinity of the island of Reil.

Next came the detrimental teaching of Flourens (1842), which checked the progress of the doctrine of localisation, and even imparted to it a retrograde impetus. It is to be understood that I speak thus disparagingly of this distinguished physiologist only as respects the subject under consideration. The fame of Flourens as a pioneer of cerebral physiology is colossal, and his published experimental researches are of lasting value. His splendid work was well calculated to give a stamp of high authority to his conclusions, and no doubt led to the wide acceptance they obtained. His experiments on frogs and pigeons enjoy a perennial youth, and can be repeated to-day in the physiological laboratory ; but his deductions have become antiquated and are fast growing obsolete, the interest attaching to them now being mainly historical.

Without entering minutely into detail, it will suffice to say

that the teaching of Flourens briefly amounted to this,—that portions of the cerebral lobes could be destroyed in various regions without apparent loss of function, and therefore all the functions could be performed by a limited portion of brain; in other words that the brain acted as a whole, and that each part was a sort of micrencephalon; and, in fine, that differentiation of function did not exist. So long as these views were currently accepted as orthodox, progress was impossible, and "*la belle doctrine*"—to use Andral's happy expression—drooped and languished under their benumbing incubus.

The laboratory and its votaries, however, had to reckon with the steadily accumulating pile of facts collected by accurate observers at the bedside and in the dead-house. It is remarkable that the rich mines available to the clinician and pathologist were explored with such tardy success even by men of commanding ability. There can be little doubt that the dominating influence of Flourens was largely to blame, and that the facts were perceived in a distorted form, because they were inspected through the lens of a false theory. Nevertheless, progress was made steadily if slowly; clinical and *post mortem* records were collected and digested; a younger generation, wanting perhaps in respect for departed greatness but desirous of progress, began to doubt the views of the old masters; and at length, in 1861, Broca announced his discovery of the speech centre in the third left frontal convolution, whereby the time-honoured laboratory theories sustained a rude and irremediable shock. Subsequent physiological and pathological researches have completely dissipated the frog-and-pigeon physiology as applied to man.

By general consent the best surveyed and understood region of the cortex is the immediate neighbourhood of the fissure of Rolando. It is the seat of government of volitional movements, and is illuminated by some of the fierce light which proverbially beats upon a throne. Yet it is within our own time that the first pale beams of positive knowledge fell upon these important convolutions. To our distinguished fellow-countryman Hughlings Jackson belongs the credit of having first indicated

the functions of the Rolandic area of the cerebral cortex. His methods were not experimental, but clinical and pathological, and were founded more especially on cases of unilateral convulsions unattended by loss of consciousness. When first promulgated, his views met with the scepticism impartially meted out by the scientific mind to new discoveries. They were regarded as ingenious speculations, of no practical value, and altogether at variance with the physiology of twenty years ago. For it was held to have been conclusively demonstrated by experiment that the surface of the brain was absolutely inexcitable by any known stimulus, whether mechanical, thermal, chemical, or electrical; and it seemed an inevitable corollary upon this, that no local source of irritation acting upon the cortex could give rise to movements in specified groups of muscles. "So much the worse for the facts" of that now defunct physiology; for in the following year (1870) were published, in Du Bois-Reymond's *Archiv*, the epoch-making discoveries of Fritsch and Hitzig. These experimenters found that the application of a weak galvanic current to the surface of the motor region resulted in the production of movements in the opposite side of the body; and thus was opened up a most fruitful method of research, which has revolutionised this department of neurology.

Dr. Ferrier's magnificent researches were instigated by the suggestive work of Fritsch and Hitzig, and were designed with the view of testing the hypotheses of Hughlings Jackson. The West Riding Lunatic Asylum Reports for 1873 will long be memorable for the publication of Ferrier's earlier work, for they indicate a conspicuous landmark on the forward road of localisation. Adopting the stimulation of faradism in preference to that of galvanism, employed by Hitzig, Ferrier's explorations enabled him to construct a map of the cortex of the monkey's brain, with many autonomous districts circumscribed, more particularly in the parts endowed with motorial function; for these would obviously be much more easily definable than those concerned in sensation.

Numerous experiments, confirmatory and modifying, have

been made by Goltz, Munk, Horsley, Schäfer and others, including Ferrier himself. The result has been to establish the substantial accuracy of the map, though various emendations have been rendered necessary, and the work of delimitation is continually going forward. At the present time a research is being prosecuted by Prof. Horsley and Dr. Beevor, under the auspices of the British Medical Association, with the view of making a minute analysis of the so-called motor cortex in the monkey.

The application to man of the knowledge derived from experiments on the monkey is, in a large degree, justified by the closely accordant effects produced by pathological processes. On this head laborious and valuable observations have been recorded by hosts of neurologists in various parts of the world. One may particularise Charcot, Pitres, and their coadjutors in France; Hughlings Jackson, Macewen, Starkey, and Gowers in Britain; Nothnagel in Germany; and Allen Starr in America.

METHODS OF RESEARCH.

The present position of the doctrine of localisation has been gained by contributions derived from three chief sources of information, viz., anatomy, physiology, and pathology.

The complex interlacement of the nerve fibres is an anatomical difficulty too great to be overcome by the most refined dissection with the scalpel; but by means of the process of degeneration on the one hand and of development on the other, many of the nerve paths have been surveyed and defined with considerable precision. Türck and Waller were the pioneers of secondary degeneration, and Flechsig of embryology. Moreover, histology displays minute differences in structure which subserve varieties of function, and in particular has thrown great light upon the cells of the cortical grey matter. Another valuable contribution from anatomy is furnished by the researches of Duret and of Heubner on the ultimate distribution of the cerebral arteries, especially of the middle cerebral branch of the internal carotid.

Physiology applies the test of experiment to the suggestions offered by anatomy, by the methods respectively of stimulation and destruction of carefully defined areas. A current of electricity applied to certain specified regions calls forth orderly muscular movements, which are detailed below. Similarly, destruction by the knife or cautery results in the loss of the movement or sensation associated with the injured part. Such experiments furnish cogent reasons for the localisation of centres in the cortex.

For the final proof of the inferences deducible from the facts of anatomy and physiology, an appeal must be made to pathology; and on this method of research, therefore, chief reliance must be placed in investigating the functions of the human brain.

OUTLINE OF THE LOCALISATION OF FUNCTIONS.

It needs no argument beyond the assertion, that a sound knowledge of the Institutes of Medicine must underlie all scientific investigations into aberrations of bodily function, the outcome of disease or injury. The mere empiric, vaunting his "experience," affects to despise the precise details of anatomy and physiology; whereas the true clinician, keen and pertinacious in his quest for the cause—the *fons et origo mali*—finds in such details the key wherewith to unlock the complex groups of symptoms presented for his study.

The fascinating problems connected with intracranial lesions find their chief interest, for the surgeon and physician alike, in their topical relation to structures whose physiological attributes have been ascertained. Differentiation of function governs the situation. Draw out from the woven tissue of cerebral neurology the strand marked differentiation, and the result is a confused entanglement of incomprehensible facts.

It will not be possible within the limits of this paper to attempt much more than an outline of the leading facts and views bearing on the subject of localisation. This is the less to be regretted inasmuch as reasonable brevity will conduce to clearness.

First, then, let me draw your attention to a few indispensable points in the anatomy of the brain. The cerebrum may be roughly described as a bifid, thick-walled capsule, enclosing an interior ventricular space, and supported on either side by the crus cerebri, which enters the base of the corresponding hemisphere in a stalklike manner, and then passing between the basal ganglia—corpus striatum and optic thalamus—radiates its fibres in all directions to the cortex. On the outer face of each hemisphere (fig. 1) are two constant and conspicuous fissures,—

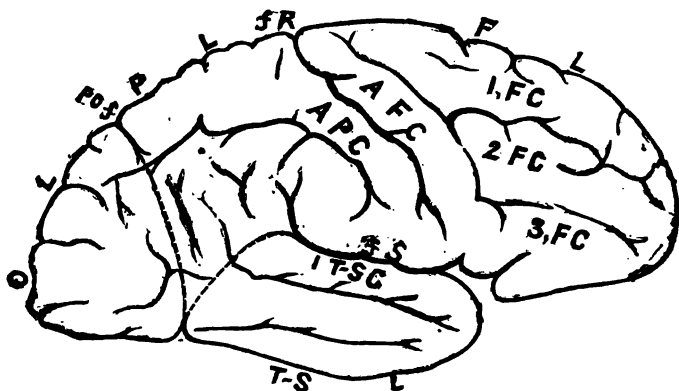


FIG. 1.

Outer Aspect of Cerebrum.—*fR*, Fissure of Rolando; *fS*, Fissure of Sylvius; *p o f*, Parieto-occipital Fissure; *FL*, Frontal lobe; *PL*, Parietal lobe; *OL*, Occipital lobe; *T-S L*, Temporo-sphenoidal lobe; *AFC*, Ascending frontal convolution; 1, 2, 3 *FC*, Frontal convolutions; *APC*, Ascending parietal convolution; 1 *T-S C*, 1st temporo-sphenoidal convolution.

those, namely, of Sylvius (*fS*) and Rolando (*fR*); the former, by its horizontal limb, marking the confines of the frontal and temporo-sphenoidal lobes in front and of the parietal and temporo-sphenoidal lobes behind, and the latter similarly parting the frontal and parietal lobes. Towards the posterior extremity of the longitudinal fissure is seen another shorter fissure, which is better marked on the inner face of the hemisphere. This is the parieto-occipital, (*p o f*) so named because of the lobes it separates.

The frontal lobe is subdivided by secondary sulci into four convolutions, as follows:—Bordering on and running parallel to

the fissure of Rolando is a vertical convolution known as the ascending frontal (**A F C**); in front of this is the præ-frontal region, containing a series of three horizontal gyri placed one above another, and termed respectively, from above downwards, the first, second, and third frontal.

The parietal lobe presents in front a vertical convolution bordering on the fissure of Rolando; this is termed the ascending parietal convolution (**A P C**). Behind it are two horizontal folds, the superior parietal lobule above, and the inferior parietal lobule or supra-marginal convolution (so called from its relation to the fissure of Sylvius) below.

The occipital lobe is divided into three convolutions, the first, second, and third, from the longitudinal fissure above to the basal margin below.

In the temporo-sphenoidal lobe may be discerned three horizontal convolutions, viz., the first, second, and third temporal.

Special attention must be called to the posterior extremity of the supra-marginal convolution, which has received a distinct name, the angular gyrus, formerly designated the *pli courbe* of Gratiolet.

Turning to the inner aspect of the hemisphere (fig. 2), we note

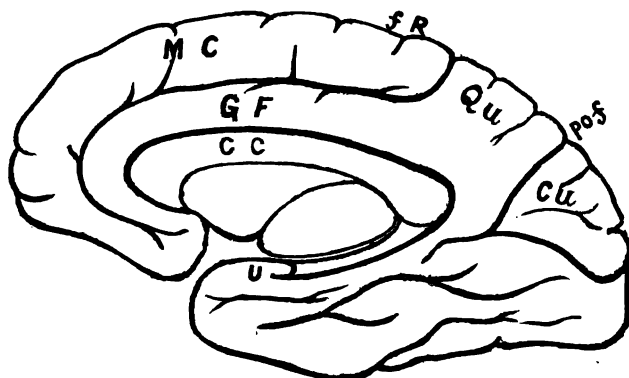


FIG. 2.

Inner Aspect of Cerebrum.—**f R**, Fissure of Rolando; **pos**, Parieto-occipital fissure; **CC**, Corpus callosum; **MC**, Marginal convolution; **GF**, Gyrus fornicatus; **Qu**, Quadrangle lobule; **Cu**, Cuneus; **U**, Uncus.

midway between its free edge and the corpus callosum (**C C**), the calloso-marginal fissure, which runs into the longitudinal fissure behind the sulcus of Rolando. Above this is seen the marginal convolution (**M C**), and below is the gyrus fornicatus (**G F**). Posteriorly is the deep parieto-occipital fissure (**p o f**), which, with the still more posterior calcarine fissure, defines the cuneus or wedge shaped lobule (**C u**). Just in front of this is the quadrate lobule (**Q u**).

An important region must be indicated behind the marginal convolution, where is located the paracentral lobule, which may be considered the confluent upper extremities of the ascending frontal and parietal convolutions. Beneath the corpus callosum is seen the uncinate (or hippocampal) convolution of the temporo-sphenoidal lobe (**u**).

We owe to Betz the valuable discovery that in the cortex of the Rolandic area, and in this region alone, are found giant ganglionic cells analogous to the large anterior cornual cells of the spinal cord. This is highly suggestive of motor function. From the cells, the fibres of the pyramidal tract proceed through the centrum ovale, and converge to the internal capsule of the corpus striatum, where they occupy the anterior two-thirds of its posterior limb, in the order from before backwards of face, arm and leg fibres. They then descend in the crus cerebri, the posterior fibres now being external; and passing through the pons, they enter the medulla, decussating with those from the opposite hemisphere before entering the cord. These relations explain some phenomena of hemiplegia.

Before quitting the nerve paths in the corpus striatum, it must be added that the posterior third of the posterior limb of the internal capsule constitutes the "sensory cross-way" of Charcot. In this are contained fasciculi of centripetal nerve fibres, whose function is to convey towards the centre, sensory impressions proceeding from the opposite side of the body.

This then is the anatomical substratum upon which we may proceed to indicate a chart of the localised functions. It will be convenient to detail in the first place what has been ascertained

with considerable precision by Ferrier, Horsley, and others, in regard to the cerebral cortex in the monkey.

I. MOTOR CENTRES.—Electrical stimulation of the central region of the hemisphere evokes specific movements varying with the region experimented upon, but constant for each particular region. (The numbers and letters contained in this section correspond to Fig. 3).

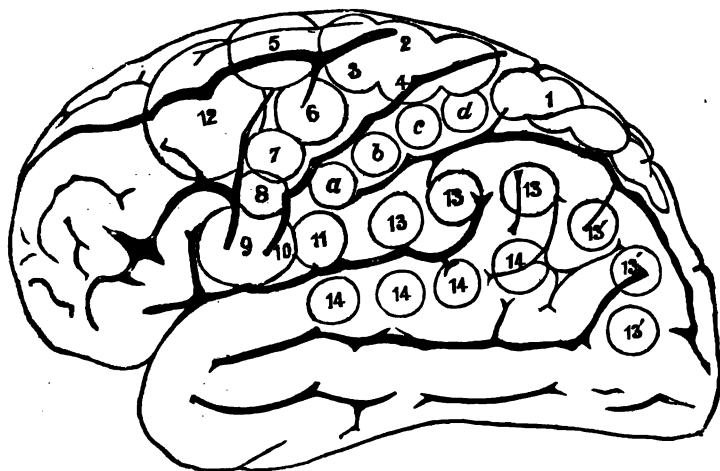


FIG. 3.

Outer aspect of Cerebrum, with the areas of the convolutions, according to Ferrier.

- (1) Superior parietal lobule : Advance of the opposite hind leg as in walking ; the thigh being flexed, leg and toes extended.
- (2) On the adjoining upper extremities of ascending central convolutions : Flexion of thigh, with inward rotation of leg and flexion of toes, as in making a grasping movement.
- (3) On the ascending frontal convolution below (2) : Movements similar to (1) and (2).
- (4) Behind (3), an area common to both ascending convolutions : The opposite arm is adducted, extended and retracted, and the hand pronated.
- (5) On the ascending frontal convolution adjacent to supra-frontal : Extension forwards of opposite arm.

- (a. b. c. d.) Middle zone of ascending parietal convolution :
Clenching of the fist.
- (6) Middle of ascending frontal convolution : Flexion and supination of the forearm, as in bringing the hand up to the mouth.
- (7) Below (6) : Retraction and elevation of the angle of the mouth—action of zygomatic muscles.
- (8) Below (7) : Elevation of ala of nose and upper lip.
- (9) & (10) On lower extremity of the ascending frontal convolution : Opening of the mouth, with protrusion (9), and retraction (10) of the tongue ; bilateral movements.
- (11) On lower extremity of the ascending parietal convolution : Retraction of the angle of the mouth by means of platysma myoides.
- (12) Posterior half or two-thirds of the superior and middle frontal convolutions : The eyes open, the pupils dilate, and head and eyes turn to the opposite side.
- *(13) & (13') On the anterior and posterior limbs of the angular gyrus : The eyes move to the opposite side, with an upward (13), or downward (13') deviation.
- *(14) On the superior temporo-sphenoidal convolution : Pricking of the opposite ear, head and eyes turn to the opposite side, and pupils dilate.
- *(15) On the anterior and inner aspect of uncinate gyrus : Torsion of the lip and semi-closure of nostril on same side, as when interior of nostril is irritated by some pungent odour.

Lastly, on the inner face of the hemisphere, stimulation of the marginal convolution (Fig. 2, M. C.), from before backwards, yields the following movements : (1) Movement of forearm ; (2) of humerus and scapula ; (3) rotation and flexion of upper part of trunk : (4) lower part of trunk and abdomen ; (5) pelvis ; (6) hip ; (7) knee ; (8) ankle ; (9) toes.

* For convenience' sake these motor phenomena are mentioned here, but the regions specified are endowed with sensory functions, as detailed below.

II. SENSORY CENTRES.—I. *Vision*.—The leading authorities are not yet harmonious in their localisation of the visual centre. Ferrier found that electrical stimulation of the angular gyrus caused a movement of the eyes to the opposite side, suggestive of a visual sensation; for the mere fact of movement following stimulation of an area is not of necessity a proof that the region is a motor one; and it therefore becomes necessary to perform the complementary experiment of destruction of the given area. In Ferrier's hands the result of ablation or cauterization of either angular gyrus in the monkey was invariably the production of a temporary loss of vision of the opposite eye. If the functional eye were bound up, the animal gave unequivocal evidence of being quite blind. Usually, however, recovery ensued in the course of a few hours. Gerald Yeo entirely corroborates this observation. Similarly, bilateral decortization of the angular gyrus caused a temporary total blindness, the animal being in complete possession of all its other faculties. It is manifest, therefore, that the whole of the visual centre does not reside in this region, though Ferrier was at first disposed so to locate it. His subsequent investigations in the occipital region have thrown considerable light upon this point. He found that almost complete removal of both occipital lobes caused no appreciable impairment of vision. As it is indubitable that the occipital lobes are concerned in the sense of sight, this is a remarkable fact; and it has been confirmed by Gerald Yeo, and by Horsley and Schäfer. Recent experiments of Schäfer conflict with those above described, but agree with the statements of Munk that lesion of one occipital lobe causes hemianopia towards the opposite side, and that bilateral lesion causes complete blindness. Ferrier further found that total blindness did not result from any cortical mutilation short of destruction of both angular gyri and both occipital lobes.

Munk denies that the angular gyrus has any concern in vision, though his described observations hardly support this view; for after destruction of the left angular gyrus, the brusque

approximation of a finger to the right eye only caused winking when the eyelids were actually touched.

Clinical and pathological data in man are not sufficiently abundant and precise for a final determination of these points to be made at present. On the one hand there are on record cases in which crossed amblyopia was associated with disease involving lesion of one angular gyrus, as in Starkey's case, published in the *Medico-Chirurgical Transactions* for 1884. Whilst on the other hand complete hemianopia has been recorded in disease of the occipital lobe and especially of the cuneus (Fig. 2, C u); and absolute blindness has been alleged by Gowers to be a consequence of successive lesions in the two occipital lobes.

Ferrier suggests that hemianopia divided exactly by a line passing through the fixation point is more probably due to lesion of the optic tract; and when the dividing line swerves towards the defective side the probabilities are in favour of a cerebral lesion.

2. *Hearing*.—Stimulation of the superior temporo-sphenoidal convolution (Fig. 1, 1 T-S C) caused a movement suggestive of an auditory sensation on the opposite side; *i. e.*, pricking of the ear and turning of the head and eyes, with dilatation of the pupils. Identical movements are evoked by a loud and unexpected noise.

Mutilation limited to the cortex of this convolution was followed by marked indications of deafness in the opposite ear. Symmetrical ablation caused total and permanent deafness.

Pathology lends strong support to the inductions drawn from experiment. The auditory centre has, therefore, by general consent been localised in the posterior half of the first temporo-sphenoidal convolution (*vide* Fig. 4). This region has been found atrophied in cases of congenital deafness; and lesion of it has been accompanied by loss of hearing in the opposite ear. It is interesting to observe that sooner or later, hearing has been regained in such cases, doubtless owing to functional compensation effected by the uninjured centre in the other hemisphere.

Dr. Gowers mentions two cases, of tumour involving the superior temporo-sphenoidal convolution, in which convulsions were ushered in with hallucinations of hearing.

3. *Smell*.—A study of the comparative anatomy of the olfactory bulb and rhinencephalon points to the hippocampal lobule (or uncus) as the cerebral organ of smell (Fig. 2, u), its variations of size in different animals corresponding to differences in the development of the sense. Electrical stimulation affords strong confirmation, yielding a reaction identical with what occurs when a pungent odour is applied to the nostril, viz., torsion of the nostril and lip on the same side; in this last respect the experiment furnishes the only exception to the rule of opposite-sided movements.

The evidence of pathology is corroborative; for example, epileptic fits beginning with an olfactory aura occurred in association with softening of the anterior extremity of the uncinate (or hippocampal) convolution.

It would further appear that, in man at least, some fibres of the path reach the opposite hemisphere, "since," according to Gowers,* "the sense of smell has been affected, together with the other special senses on the same side, by disease of the posterior part of the opposite internal capsule, and also by disease of the cortex."

4. *Touch*.—Can a tactile centre be localised? Most authorities agree that it can, but there is great discrepancy as to the regions assigned.

Ferrier and Horsley advance cogent experimental proof for allocating the centres in the opposite hippocampal region and gyrus fornicatus, the two together constituting the falciform lobe of Broca.

Reasons have also been advanced on pathological grounds for localising the centre under consideration in the so-called motor zone; but the arguments for this hypothesis are far from conclusive.

* *Diseases of the Nervous System*, Vol. II., p. 50.

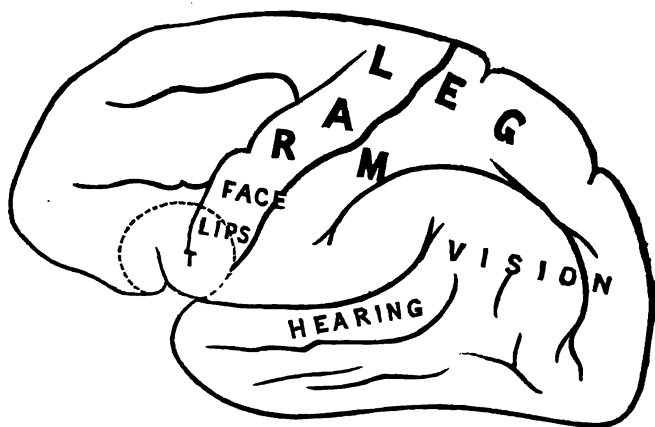


FIG. 4.

Outer Aspect of Cerebrum, shewing motor and sensory centres (after Gowers).

III. THE SENSORI-MOTOR CENTRES CONCERNED IN SPEECH.

—The experiments performed by disease have very accurately defined the centres concerned in articulate speech. They correspond to the centres for certain movements of the lips and tongue, and are situated in the posterior extremity of the third left frontal convolution (Broca's convolution), and the adjacent part of the ascending frontal. Owing to the proneness to embolism and thrombosis of the nutrient branch of the Sylvian artery supplying this region, exemplifications of its function are constantly met with in practice.

Motor Aphasia.—Charcot mentions the following case in which the lesion was beautifully localised:—"It relates," he says, "to a woman named Farn——, who was under observation in my wards at La Salpêtrière. She had been seized with aphasia, but there existed no trace of paralysis either of movement or of sensibility. In this case the aphasia was the sole symptom, and atrophy of the third frontal convolution was also the only corresponding lesion revealed by the autopsy."

Broca's great discovery constitutes one of the most massive foundation stones of the doctrine of localisation.

Sensory Aphasia.—In this relation two phenomena connected with speech claim a brief notice. (1) There may be loss of the power of understanding audibly spoken words, without either loss of speech or hearing. This condition has been traced by Wernicke to lesion of the first (or superior) left temporo-sphenoidal convolution. He described it as "sensory aphasia;" but it is more usually spoken of as "word-deafness," a phrase which we owe to Kussmaul. The region specified was diseased in every one of seventeen cases collected by Sepelli. (2) "Word-blindness" is an analogous phenomenon, the subject of it being unable to read the simplest written word, though enjoying normal acute vision. In cases of cerebral origin, the defect has been traced to disease of the angular gyrus, also on the left side. Transient "mind-blindness," *i.e.*, inability to recognise objects as well as words, has been caused by disease in this same region.

We thus see the intimate sensory relations of speech with hearing and sight, constituting organic nexuses developed as the child learns to speak and read, and multiplying with the expansion of experience.

IV. THE CEREBELLUM.—With regard to this structure our knowledge is imperfect. It is undoubtedly concerned in the function of equilibration, but extensive lesions have occurred without objective symptoms. Two symptoms of importance are (a) a characteristic ataxia and (b) vertigo; the former affecting only the trunk and lower limbs. Forced positions and movements are ascribed to cerebellar lesions—especially of the middle peduncles.

ESTIMATION OF LOCALISING SYMPTOMS.

We may say of brain surgery that it both constitutes the greatest achievement of our art in modern times, and furnishes an unanswerable demonstration of the truth of *la belle doctrine* of localisation. The newer physiology gave it birth, and provided its *raison d'être*.

With the discovery of the physiological relations of the component parts of the brain, it became manifest that the

symptoms of intracranial disease are determined to a much greater extent by the locality than by the nature of the lesion. The latter has an importance of its own which cannot be ignored; but its interest is relatively subordinate from a surgical point of view. Thus a solution of continuity of the motor pyramidal tract in any part of its course, whether occasioned by a neoplasm, an abscess, ischæmic softening, or hæmorrhage, is followed with almost mathematical certainty by paralysis on the opposite side of the body. In effect, then, disturbance of function is the clue that must be followed home in the quest for a diagnosis.

Aberration of function may display itself in one of three ways,—(1) *Diminution*, from slight impairment down to absolute loss; (2) *Exaltation*; and (3) *Perversion*. Broadly speaking, the lesions which produce such phenomena are of two kinds,—(a) Irritative or Discharging; (b) Destructive.

I propose to consider the most conspicuous symptoms met with in clinical practice, with special regard to their localising value.

(A) MOTOR SYMPTOMS.—(a) *Spasm*.—(1) Clonic convulsions may be produced by increase of intracranial pressure, and are then of a general character, such as are exhibited in an ordinary epileptic seizure. With these I am not at present concerned. Limited convulsions, known as Jacksonian epilepsy, are evoked by various forms of irritation of the motor cortical zone, whether arising from the osseous wall, enclosing membranes, or grey matter. The proximate cause of the convulsion is unstable tension of the ganglionic cells, issuing in an explosion or discharge of nervous energy, which is conducted by the fibres of the pyramidal tract to the nuclei of the nerves supplying the correlated muscles. The paroxysm in its onset is usually deliberate, and often unattended with loss of consciousness; and, moreover, it is differentiated with singular local exactness. Hence the high diagnostic value of Jacksonian epilepsy. The cycle of convulsion begins with twitching of one muscle or portion of muscle,—it may be of the eyelid, or face, or tongue, or of a manual or pedal digit.

This is the signal symptom, which furnishes the clue to the precise situation of the lesion in the central (Rolandic) convolutions, and para-central lobule, of the opposite cerebral hemisphere. Convulsions beginning at the face point to irritation in the lower part of the motor region; when the hand is the starting point, the lesion involves the middle part; and the foot is similarly related to the upper part close to the longitudinal fissure (*vide* Fig. 4). As the nervous discharge proceeds from the primary exploding cell to others immediately adjacent, other muscles become implicated in the fit; the sequence of implication being determined by the line of irritation exerted by the cortical lesion, and therefore possessing a localising value. Four degrees of extension may occur: (1) Unilateral convulsions not spreading beyond one segment of the body, *e.g.*, face, arm, or leg; (2) the whole of the unilateral muscles on one side implicated; (3) bilateral muscles of both sides involved, *e.g.*, thorax, and sometimes the opposite leg; and (4) general convulsions, including the opposite arm. The entire cycle may occupy a few seconds, or two or more minutes. A transient weakness, (post-convulsive paralysis), usually succeeds, and is attributable to exhaustion of the nerve-elements. Localised persistent paralysis, associated with convulsion of neighbouring muscles, has a high value, as indicating that at the focus of irritation the lesion has become modified into a destructive one.

I am indebted to the kindness of Mr. Bartleet for permission to append the notes of a typical case of Jacksonian epilepsy.

George A., æt. 55, was admitted into the Birmingham General Hospital on July 11th, 1886, under the care of Mr. Bartleet. He was suffering from concussion of the brain and fractured ribs, caused by falling off a ladder. Jacksonian epilepsy supervened on July 14th, the fits increasing in severity and frequency until July 16th, when Mr. Bartleet trephined in two places over the affected region on the right side, removing a teaspoonful of clot and two ounces of clear, straw-coloured fluid. The encephalitis existing proved fatal on July 18th.

The following description of a fit is from the joint observation

of Dr. Stacey Wilson and myself:—"The fit began with a fixed stare to the right; then the head and eyes turned to the left. In about thirty seconds the left upper limb became involved; first there came a combination of flexion and supination of the forearm, followed by abduction of the upper arm, by means of which the second metacarpo-phalangeal knuckle was brought against the left side of the nose. The hand was then pushed forward and flexed, flexion extending strongly into the fingers. Then the arm was adducted to the side, and the forearm lowered to the bed in the position of pronation. During and after descent there were clonic movements of the triceps: at the same time the left orbicularis palpebrarum was clonically convulsed. The fit lasted seventy seconds, the cycle ending with clonic spasms of the left buccinator."

As the case progressed to the fatal termination, the left leg and the limbs on the right side became involved.

(2) Chronic spasm—post-hemiplegic rigidity or contracture—indicates interruption of the motor centres, or of the tract between the cortex and the spinal cord; it may be in the centrum ovale, or internal capsule, or crus, or pons, or medulla. Its intracranial origin is evidenced by the preservation of electrical reactions in the paralysed muscles.

(β) *Paralysis*.—Hemiplegia due to organic brain disease indicates lesion of the motor centres or tract of the opposite hemisphere. When of the ordinary complete kind, the arm and leg are helpless, the lower part of the face and the tongue also being paralysed, the latter deviating towards the paralysed side when protruded. This group of symptoms very frequently depends upon rupture of the lenticulo-striate artery, and consequent hæmorrhage into the corpus striatum.

Irregular and alternate forms of hemiplegia indicate lesion of crus, pons, or medulla; *e. g.*, when face, arm, and leg are paralysed on side opposite the lesion, and muscles supplied by third nerve on the same side as the lesion.

Monoplegia of cerebral origin (as evidenced by electrical reactions), whilst not absolutely proving a cortical lesion, is

highly suggestive of one. Its chief varieties are the *brachial*, *crural*, and *facio-lingual*, and they indicate respectively destructive lesions of the correlated cortical centres. Limited disease of this kind is a frequent result of vascular lesion of an autonomous area.

Paralysis of one or more cerebral nerves, due to disease in the region of the base of the brain, usually manifests its extra-nuclear origin by the characteristic atrophy and reaction of degeneration in the muscles.

Rhythmical tremor of paretic origin, occurring on attempts at voluntary movement, though a very ambiguous symptom, is met with in certain cases of pressure upon the pyramidal tract; notably when a cerebellar tumour presses upon the pons or medulla.

Motor aphasia, including loss of voluntary power to speak and to write, must, in the great majority of cases, be interpreted as the effect of lesion located in the left third frontal convolution. In left-handed persons the corresponding region of the right hemisphere is affected; as also in those who have recovered speech after destruction of the left motor speech centre.

(B) SENSORY SYMPTOMS.—In hemianæsthesia the side affected is that opposite the cerebral lesion. When complete and unattended with motor paralysis, it is almost certainly due to a non-cortical lesion; possibly in the "sensory cross-way" situated in the posterior part of the internal capsule, or in the tegmentum of the crus cerebri, or of the pons. When abrogation of the special senses is associated with the anæsthesia, the "sensory cross-way" is the seat of disease; assuming that hysteria has been eliminated.

Crossed anæsthesia of the face and limbs occurs only in lesions of the pons in the vicinity of the fifth nerve.

Visual aberrations of central origin may take the form of crossed amblyopia, or of hemianopia, or of mind-blindness. The first and third symptoms are associated, as was mentioned above, with disease of the angular gyrus in the parietal lobe: the second symptom occurs in occipital lesions, and especially in the region of the cuneus.

The localising value of deafness dependent on lesion situated in the posterior half of the opposite first temporo-sphenoidal convolution, has been alluded to earlier in the paper.

Percussion of the Skull occasionally affords help in making a diagnosis. A note may be thus elicited indicative of altered consistence of the intra-cranial contents. In a case at present under my colleague, Dr. Suckling, percussion of the vault elicits a cracked-pot sound: the patient presents symptoms of tumour involving the pyramidal tract, and there may possibly be an increased quantity of ventricular fluid. The only localising value of percussion of the skull, so far as I am aware, is in limiting an area of tenderness of the scalp.

Lesions of the bones and membranes acquire great importance from their relation to the subjacent cortex. Space will only permit of reference to laceration of the middle meningeal artery. The area of distribution of this vessel overlies the convolutions contiguous to the fissure of Rolando, and if blood be extravasated in this region, whether as a result of fracture, *contre-coup* or otherwise, pressure effects are exerted upon the motor area. The chief points to be noticed in the diagnosis of middle meningeal hæmorrhage are:—(1) Interval of consciousness between the concussion following an injury to the head, and the appearance of paralysis and coma; (2) hemiplegia on the side opposite to the injury (isolated paralysis of the leg is never observed); (3) slowness and hardness of the pulse; (4) embarrassment of respiration, and stertor, associated with coma; (5) changes of the pupils: insensitiveness and dilatation indicate extreme compression; unilateral dilatation on the side of the injury is a most valuable sign, and points with considerable certainty to an extension of the clot towards the base, and consequent compression of the third nerve.

FALLACIES IN DIAGNOSIS.

It remains to point out certain fallacies which are liable to enter into our interpretation of the phenomena of encephalic lesions. It is not too much to say that no other department of

our profession more severely taxes the resources of the diagnostician. Many cases, indeed, present perplexities which baffle the most acute investigation, and in such we must be content, in the existing state of knowledge, to make an approximate diagnosis.

(a) The symptom may be "indirect," *i.e.*, due to a lesion remote from the part whose function is disturbed. This may be produced in one of the following ways:—(1) Pressure, acting mechanically through a distance; (2) blocking of a nutrient vessel of the cortex by a tumour or other lesion at the base; (3) interruption of fibres connecting associated centres, as in the sensori-motor nexus of the speech apparatus.

(b) Reflex spasm, closely simulating central disease, may be met with. Monospasm, and even unilateral convulsions, have been caused by peripheral sources of irritation. A fibroma involving a nerve trunk in the palm produced fits of typically Jacksonian character, cure being effected by removal of the growth. This case is recorded by Mills of Philadelphia.*

(c) A fallacy of rare occurrence is the existence of a cerebral lesion on the same side as the paralysis. This is not of any great practical importance, but still needs to be borne in mind. It is explained by non-decussation of the pyramidal tract in the medulla, an anatomical abnormality which has been reported by Flechsig and others.

(d) There may be multiple discrete lesions, though the symptoms are explicable on the hypothesis of a solitary and definitely located lesion.

(e) Hysteria and allied functional neuroses give rise to symptoms closely simulating the effects of coarse morbid processes. In the case of women, and especially where operation is contemplated, scrupulous care requires to be taken to eliminate this possible fallacy.

(f) Ocular defects, as hypermetropia, myopia, and astigmatism, are apt to produce, in addition to imperfect vision, headache and even vomiting. There may thus, in such cases, be a superficial resemblance to the phenomena of cerebral tumour.

* *New York Medical Record*, September 22, 1888, p. 313.

(g) Menière's disease, with its associated tinnitus, deafness, vertigo, and vomiting, is liable to be mistaken for lesion of the temporo-sphenoidal lobe, though actually due only to disturbance of the labyrinth.

(h) Anæmia, uræmia, plumbism, and other metallic poisonings, may be mistaken for intra-cranial disease.

(i) Lastly, it is well to remember that extensive mischief may exist without furnishing objective symptoms. In this class are included tumours of the frontal and occipital lobes, and of the cerebellum; generally of a soft, succulent nature, and forming so slowly that the nervous tissues are able to adapt themselves to the displacement, or pressure is relieved by thinning of the skull. Broadbent's hypothesis of the bilateral representation in the hemispheres of one-sided movements which are habitually associated on the two sides, serves to explain why certain focal lesions elude localisation, the uninjured centre compensating for the lost function of its fellow.

As a model of scientific reasoning leading to an accurate localisation and brilliant treatment, I may be allowed to quote verbally a case from the practice of the pioneer of modern cerebral surgery, Dr. Wm. Macewen* :—

"A patient exhibiting symptoms of cerebral abscess, had on the left side ptosis, stabile mydriasis, paresis of all the ocular muscles, with the exception of the external rectus, without external squint. On the right side paralysis of the facial muscles, which retained power of emotional expression to a slight degree, and the patient had power to close the right eyelid by an effort of will, though it remained partially opened during sleep. He had also paresis of the right arm, which, during the few hours he was under observation before operation, had amounted to distinct paralysis. The leg remained normal. There was no diminution of cutaneous sensibility. From these symptoms it was concluded that a single lesion must be large which could affect at once the third nerve in its course, and the lower half of the ascending convolutions. Second, it was clear it was not a

* *British Medical Journal*. 1888, Vol. II., p. 307.

destructive lesion of large size in the motor area, or the crural centre would probably have been involved, thus causing absolute hemiplegia. The same observation applies with greater force to the crus cerebri, which must be excluded as the effects of pressure would probably have led to more extensive involvement. Had the pressure even indirectly affected that area from without inwards, it would have implicated the parts in the reverse order—the leg first, the face last. The tentorium cerebelli would prevent pressure downwards on the pons. Third, the internal capsule could not be the seat of a large lesion, otherwise hemiplegia with destruction of “Charcot’s cross-way” would have resulted. Fourth, though the whole trunk of the third nerve was involved, paresis was alone produced, probably resulting from a degree of pressure. Fifth, the lesion was gradually implicating the motor area from below upwards, and was probably occasioned by pressure and its consequences. The only place where a lesion could be situated, producing all these phenomena just to that precise degree, was the temporo-sphenoidal lobe. It was cut down upon and in the medullary substance of the temporo-sphenoidal lobe an abscess containing three ounces of pus was found, which was evacuated, when the whole of the above symptoms vanished. Three weeks afterwards the wound was looked at for the first time and found healed.”

SYPHILIS OF THE NERVOUS SYSTEM.

BY C. W. SUCKLING, M.D. (LOND.), M.R.C.P.,

PHYSICIAN TO THE QUEEN'S HOSPITAL.

PROFESSOR OF MATERIA MEDICA AT THE QUEEN'S COLLEGE, ETC.

SYPHILIS of the nervous system is one of the most important subjects in the whole range of medicine. It is of high importance, seeing that the vast majority of cases of brain and cord disease occurring in adult life are due to it. It is of the utmost importance to the unfortunate sufferer that his disease be recognised early and treated promptly and energetically, a wrong diagnosis meaning for him either an incurable paralysis or death; while early recognition of the disease often ensures a complete cure. It seems very remarkable that syphilitic affections of the brain have only been recognised of recent years, considering their great prevalence and marked features. The brain is far more commonly affected by syphilis than the spinal cord or the peripheral nerves; but there is no part of the nervous system that may not be attacked.

Syphilitic affections occurring in adult life are more frequently the result of the acquired than of the inherited disease; still the fact that brain mischief appearing in adult life may be due to inherited syphilis must be borne in mind. In children inherited syphilis may cause atrophy and sclerosis of the brain, gummatous growths, hydrocephalus, meningitis, and paralysis of the limbs from gummatous inflammation of the peripheral nerves. In fact, there is no known syphilitic lesion of the brain which may not occur in children. Syphilis is a common cause of cervical opisthotonos in children, due to basilar meningitis. Probably many of these cases, observed in infants where there has been a history of brain trouble and the child is brought to us with nystagmus and blindness from optic atrophy, are due to syphilitic basilar meningitis. The syphilitic affections of the nervous system include meningitis and pachymeningitis of the brain and cord; paralysis of the cranial, spinal, and peripheral nerves, due to gummatous inflammation;

insomnia, sensory paralysis, aphasia, epilepsy, Jacksonian epilepsy, insanity, coma, apoplectic attacks, paraplegia, monoplegia from myelitis or brain disease, acute multiple neuritis leading to a general paralysis, sciatica and other forms of neuralgia; possibly also general paralysis of the insane and locomotor ataxia, syphilis undoubtedly predisposing to degenerative diseases of the nervous system.

Paralysis of the Ocular Nerves has long been recognised as a common result of cerebral syphilis, and it was called by Ricord the signature of syphilis on the eye. The third nerve is the one most frequently affected by syphilis, then the sixth, then the facial, but any of the cranial nerves may be affected. The paralysis is almost invariably one-sided—that is, a pair of cranial nerves are very rarely simultaneously affected. Ophthalmoplegia, interna and externa, are undoubtedly produced by syphilis, as shewn long ago by Hutchinson, but they are not nearly so susceptible to treatment as are lesions of the trunks of the nerves. Ptosis appearing in an adult apart from locomotor ataxia and diphtheria is almost invariably due to syphilis.

Hemiplegia is common in the subjects of cerebral syphilis, and there appears to be at least three forms. In one the hemiplegia is preceded by severe headache, comes on gradually and is rapidly cured by iodide of potassium with or without mercury. There may, however, be several apoplectiform attacks followed by hemiplegia, which recovers spontaneously, but which, if not treated, becomes permanent. These forms of hemiplegia are probably due to compression of the middle cerebral artery by gummatous growth. In another variety the hemiplegia follows attacks of Jacksonian epilepsy, and is due to gummatous mischief in the motor area of the cortex; it is preceded by nocturnal headache and often accompanied with optic neuritis and with tenderness upon percussion of the skull over the affected convolutions, and is cured or relieved by anti-syphilitic treatment. In the third form the hemiplegia, with or without aphasia, supervenes more suddenly, is not preceded by much headache, but is very pronounced and followed by severe rigidity

with marked exaggeration of the reflexes. This variety is due to thrombosis occurring in a diseased vessel, and is not amenable to treatment. It is the most common form met with, and the incurability is due to the fact that, though the diseased vessel may be altered by treatment, the softening that has already taken place cannot be altered. For this reason sudden syphilitic hemiplegia is less amenable to treatment than gradual and progressive hemiplegia.

Aphasia is a well known symptom of cerebral syphilis, and it may occur with or without hemiplegia, and may be either of the motor or sensory variety.

Epilepsy may result from cerebral syphilis: when due to syphilis it usually comes on after twenty, and the attacks are usually preceded by headache, the patient not being well in the intervals. In all cases in which headache is markedly present before an epileptic fit, syphilis should be looked for. The sensory areas of the brain are not nearly so frequently affected as the motor and sensory. Sensory Jacksonian epilepsy is far more rare than motor Jacksonian epilepsy.

It is of great importance to bear in mind the fact that syphilis is a cause of *coma* and that the coma may come on suddenly. In some cases it is due to thrombosis of the basilar artery. Dr. Althaus and Dr. Clifford Allbutt have written upon syphilitic coma, and state that recovery frequently ensues under appropriate treatment.

The relation of syphilis to locomotor ataxia is of great interest. In a large proportion of cases of this disease a clear previous history of syphilis can be obtained, yet they cannot be cured by anti-syphilitic remedies. Possibly in some rare cases of short duration a rapid cure has been effected, but these were probably due to gummatous mischief about the posterior nerve roots or affecting the root zones. General paralysis of the insane, acute ascending paralysis, and progressive muscular atrophy, and other chronic degenerative diseases of the nervous system frequently follow syphilitic infection. In all affections of the nervous system syphilis should be borne in mind,

and in all cases in which there is the slightest suspicion of syphilis iodide of potassium should be administered.

In the *diagnosis* of syphilis of the nervous system the following points must be borne in mind :—

(1) No reliance must be placed upon the absence of any history of infection if the symptoms point to syphilis. In many people the secondary symptoms are very slight, and it is exactly in these cases, and possibly because they have not attracted attention and have not been properly treated, that syphilis of the nervous system develops. Though in some cases, however thorough the early treatment, the disease may in after years affect the nervous system. The length of time that may have elapsed since the primary sore was contracted must not mislead, for cerebral syphilis may occur twenty or thirty years after, or on the other hand it may occur a few months after, and even while the patient is suffering from secondaries. In women a history of miscarriages is of great importance and strongly suggestive of syphilis. The presence of characteristic scars on the penis, body, lips, fauces, or perforation of nasal septum must be looked for. The presence of traces of old iritis, keratitis, and of choroiditis-disseminata are almost diagnostic. In all cases the fundus oculi should be examined. In the case of a lady who had severe hemiplegia and contracture and who had had no other symptoms of syphilis, the syphilitic nature of the case was revealed by the presence of choroiditis, though absolutely no history could be obtained from herself or her husband of any infection.

(2) One of the most characteristic features of cerebral syphilis is headache, almost invariably worse at night, occasionally however the headache is present in the day-time only. Any persistent headache which is worse at night is highly suggestive of syphilis and urgently calls for iodide of potassium. Such a headache often precedes paralytic and other serious symptoms. Tenderness on percussion over some part of the skull is often present, the reason of this and of the headache being that syphilitic lesions affect the membranes and surface of the brain. In vascular syphilitic lesions causing hemiplegia there is often no headache.

(3) Syphilitic lesions are often multiple, anomalous, variable, and unsymmetrical. Paralysis of a cranial nerve on one side, with hemiplegia on the opposite side, is suggestive of syphilis. Syphilitic hemiplegia, though it may be simple, is often accompanied by paralysis of one or more cranial nerves—of the third alone or of the sixth alone.

(4) Syphilitic disease of the nervous system occurs in adult life usually between twenty and forty, though it may occur at any age; and its subjects have usually a sallow, anæmic, and an earthy aspect, though this is not always so. In fact, I have frequently seen cases of undoubted cerebral syphilis, especially in the upper classes, where there was no sign of any cachexia; and this muddy appearance is more common among hospital patients than among those who come to our consulting rooms.

(5) The result of treatment. If the symptoms rapidly yield to anti-syphilitic remedies, it may be taken that a syphilitic lesion is the cause; but the converse does not always hold good, for the disease, though syphilitic, may prove to be entirely intractable, and not to be remedied by iodide of potassium and mercury.

Again, it is frequently observed that in the treatment of cases of cerebral syphilis, improvement occurs up to a certain point, and then the case remains stationary without proceeding to complete recovery. In such cases it is possible that the persisting symptoms remaining after prolonged and appropriate treatment may be due to a cicatrix left by a gumma.

Case 1.—*Chancre thirty years previously; apoplectiform attack with crossed paralysis; neuralgia; nocturnal headache; multiple nodes; hemilateral myelitis, and death.*

This patient, a gentleman aged 55, with a clear history of primary syphilis thirty years previously, had suddenly been seized with vertigo and numbness in the left arm and leg, with vomiting, a few weeks before he was brought to see me. There was no absolute coma but he was drowsy for a week, and at the end of that time all paralysis had passed off. He had paralysis of the left arm and leg and ptosis and dilation of the pupil on

the right side, with anæsthesia of the right side of the face. The attack had been preceded by nocturnal headache ; it supervened rapidly, and the paralysis soon reached its maximum.

I looked upon the case as one of cerebral syphilis, and I attributed the symptoms to thrombosis of the right superior cerebellar artery. There was no earthy aspect, but there was anæmia.

The patient was much troubled with neuralgia of the auriculo-temporal nerve after this attack, worse at night, which was relieved only by large morphia injections. Iodide of potassium and mercury quite failed to relieve, and though the patient was kept under the influence of these drugs, nodes began to appear on the ribs and on the liver, and then on the head. These nodes came up in the course of the night—fresh ones coming out every night, while others subsided, and they appeared without any pain. A few months later, in spite of large doses of the iodide, spinal symptoms appeared and the patient developed the typical symptoms of hemi-lateral myelitis, and he ultimately died of exhaustion.

This case illustrates :—

(1) The multiple features of syphilis of the nervous system, the crossed hemiplegia, the paralysis of the third and fifth nerves being very characteristic, and then the development of myelitis and nodes.

(2) That the disease may be latent for thirty years and then, when the health is giving way, it may reappear. My patient had been greatly worried and overworked for some years before the apoplectiform attack.

(3) That some cases of syphilis of the nervous system advance in spite of appropriate treatment.

Case 2.—*History of chancre five years previously, followed by rash. During the past twelve months headache, not at night but in the daytime, especially after brain-work.*

A gentleman, aged 36, in a large way of business, came to me complaining of occipital headache of a dull and heavy character, not worse at night ; in fact he slept well. There was a clear history of primary syphilis contracted five years

previously. There was no change in the fundus oculi and no albuminuria. He was anæmic, but had not the muddy aspect often seen in cases of cerebral syphilis. He has been under my care for three years, and has had attacks of pain in the joints, tenderness in bones, and patches of a lupoid rash about the elbows. He has been treated with iodide of potassium and Donovan's solution, which have completely removed his headache, pains, and rash, and I have not seen him now for some months. There can be little doubt that syphilis was active in this man, and the headache, though not nocturnal, was always relieved by specific treatment. I cautioned him against overwork of the brain, which is especially to be avoided by people who have ever suffered from syphilis.

Case 3.—Nocturnal headache. No history of syphilitic infection.

A gentleman, aged 50, came to me complaining of frontal headache, always worse at night. He was anæmic, without any muddy appearance, and had suffered from lumps on his head coming out at night and disappearing in the daytime. A white spot was present in one fundus oculi to the outer side of the disc. There was no history of syphilitic infection, and no scars or other sign of the disease. Iodide of potassium in five-grain doses, twice daily, at once relieved the pain, and after a long continuance of the medicine he is now quite strong and well. In this case there was no tenderness of the scalp and no symptoms of rheumatism or gout.

Case 4.—Sciatica and pain in the shins, always nocturnal. History of chancre and secondaries twelve years previously.

A gentleman, aged 35, applied to me for relief from severe nocturnal pain in the course of the left sciatic nerve and in both shins. He had contracted syphilis twelve years previously. I discovered a node on the left tibia, but there was no cachexia. He had been under medical treatment for several months without any benefit. Iodide of potassium gave him immediate relief, and he was quickly cured. Small doses of the liq. hydrarg. perch. were combined with the iodide.

(To be continued.)

REPORTS OF CASES.

CASES OF ENLARGEMENT IN THE RIGHT LUMBAR REGION, COLLECTED FROM THE PRACTICE OF MR. LAWSON TAIT.

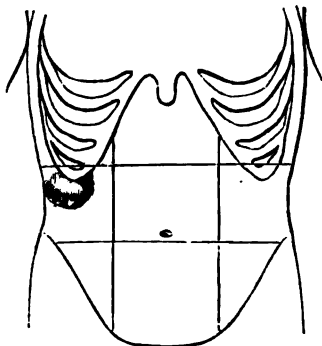
BY JAMES F. W. ROSS, M.D., TORONTO, CAN., L.R.C.P. LOND.

THE following cases are recorded to shew how easily practitioners of the greatest skill will be and are mistaken as to the nature of growths in this region. It is an easy matter for the young inexperienced graduate, educated in the false teaching of the old school, to imagine that because he has certain characteristics clustering around an abdominal "lump" he can therefore be positive that it is *this* or *that*. But such ideas should be abandoned. A margin of uncertainty should always surround such cases until the diagnosis can be affirmed by exploration. Because the surgeon feels sure that a doubtful case is a case of cancer for which nothing can be done, and because the consultant thinks the same, the case need not necessarily be left to die in uncertainty. This will be borne out by the sequel. In these modern days no abscess of the liver or suppuration of the gall bladder should be allowed to die without surgical interference. Case No. 2 would have succumbed without receiving any chance of life from surgical interference had the operator not had the courage to explore. Under Mr. Tait's practical tutorship the student must be impressed with the peculiarities of abdominal enlargements. The long German works written and illustrated with mathematical accuracy must surely have been written by men who had no extensive practical knowledge of the inside of the abdomen of the living. It is marvellous to find such volumes as must represent, one would judge, an enormous "clientèle," bursting out on the medical world from little towns where the large clientèle cannot be a factor of the clinic. Such books are

useless, except for purposes of bewildering the reader. Tumours of the liver are represented as presenting very definite outlines. Bowel resonance over an enlargement in the right lumbar region has been supposed to be diagnostic of kidney enlargements. The modulated tones supposed to be evolved by percussion in certain diseases have impressed upon us the ingenuity and perception of our old masters. But as these old masters did not verify their diagnosis, except in occasional cases *post mortem*, they had no reason to doubt the correctness of their conclusions.

The cases related below represent abdominal growths of small size, chiefly movable, accompanied by paroxysmal attacks of pain and occupying the right lumbar region, with, however, two exceptions. In one of these the lump was felt in the right lower portion of the epigastric region, and in the other no tumour was to be felt. (The dotted line represents in all the cases the line of greatest movement.) The tumours liable to occupy this region may be given as follows :—

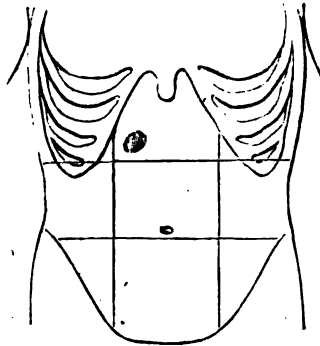
Distended gall bladder ; growths of the liver ; abscess of the liver, or hydatids ; growths from the bowel, or fæcal accumulations ; growths from or enlargements of the mesenteric glands ; growths from the ileum ; abscess ; growths from the kidney ; enlarged kidney ; movable kidney ; tumours detached from uterus or ovaries. The cases are as follows :—



Case 1.—A young girl with a tumour in the right lumbar region, reaching nearly to the crest of the ileum. It was dull

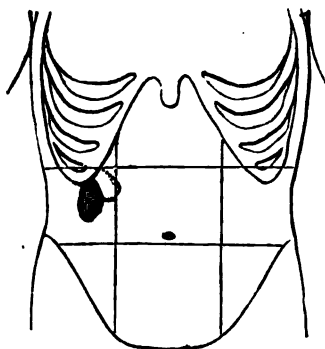
on percussion over its outer portion, but bowel resonance was noted over its inner margin. It could be forced backwards and upwards, but would not move towards the median line; that is, it moved in the line of the body and not across it. Pus was found in the urine, and it was deemed that the correct diagnosis was a suppurating kidney. On operation, a pus cavity was opened into, and two calculi were removed. The case was one of pyonephrosis. One calculus was spiculated, and the sharpness of these projections accounted for the sharp, sticking pains from which the patient suffered.

Case 2 is related in this connection to shew that abscess of the liver may be present, as has often been stated, without giving rise to very severe symptoms. A man complained of ill-health. He suffered from repeated attacks of pain in the right hypochondrium. The liver dulness was increased, but no defined tumour could be felt. It was thought probable that he had some gall stones in his gall bladder. Exploration revealed a deeply-seated abscess of the liver. It was opened and drained.



Case 3.—In this case all that could be felt was a lump low down in the epigastric region, giving rise to the symptoms supposed to be due to gall stones. He had severe paroxysms of pain recurring about every two weeks. He was almost free from pain in the interval. A resisting lump was to be distinctly felt just under the edge of the liver, as figured. On opening the

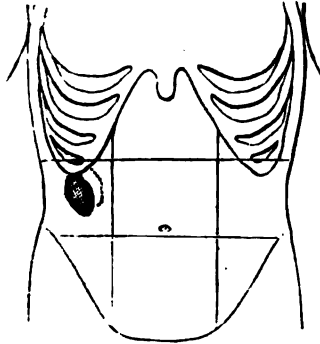
abdomen to explore, a cancer of the pyloric extremity of the stomach was found.



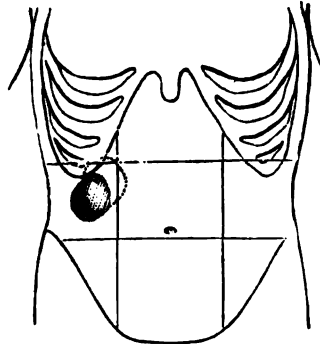
Case 4.—A lady complained of pain in the lumbar region of the right side. A movable lump was found occupying the right lumbar space. It was large and tense when first seen. After the patient had been kept in the recumbent position for two days the size of the tumour diminished. It was movable across the body toward the median line but not from below upwards. Dull on percussion. On opening the abdomen it was found to be a distended gall bladder. About fifty small gall stones were found and one large one was blocking the entrance to the cystic duct. The fluid contents were pus and a little bile. A large cancerous mass was felt beyond the cystic duct, but there was no jaundice. Jaundice may or may not accompany cancer, being due to stoppage of the bile duct by the cancerous nodules. Before operation the tumour was looked upon more as renal than hepatic, but Mr. Tait did not hazard a definite opinion. The peculiar feature of interest was to see the gall bladder reaching so far down and so far into the loin. These cases frequently are troubled with periodical attacks of pain. The pain is spasmodic and at times simulates localized peritonitis.

Case 5.—A lady going about every day in good health, but complaining of an uncomfortable feeling, at times almost a pain in her right side. A lump could be felt. It was oval in shape, smooth, tense, fluctuating, and evidently filled with fluid.

It was evidently attached above and was freely movable across the body toward the median line, but did not slip up under the liver. It was diagnosed as a distended gall bladder with a stone

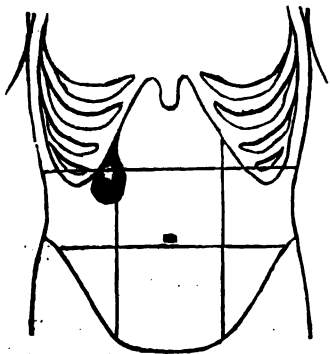


impacted in the cystic duct. She was told that a sudden knock might rupture this tense sack and kill her. She determined to have surgical interference. On operation about twelve gall stones, of various sizes, were removed, and one was found blocking the cystic duct. No bile was found in the sac; its contents were viscid, resembling a thick solution of starch in hot water, as has been noticed in many of these cases.



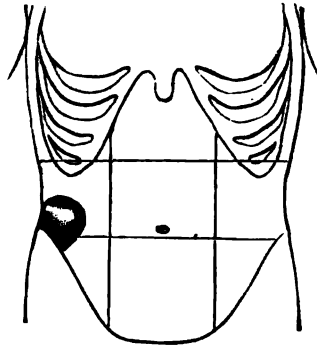
Case 6.—A woman who had noticed a lump in the right lumbar region. It was movable across the body toward the median line, and also moved upwards toward the liver. Its attachments could not be made out. Exploratory incision was

advised. After opening the abdomen, a large mass was found encapsulated, with an enormous vessel entering at its posterior surface. A trocar brought away nothing but the blood due to the puncture. It evidently entered a solid mass that sprang from the edge of the liver. No nodules were to be felt. The real nature of the growth was not made out. The patient was not jaundiced and did not look ill.

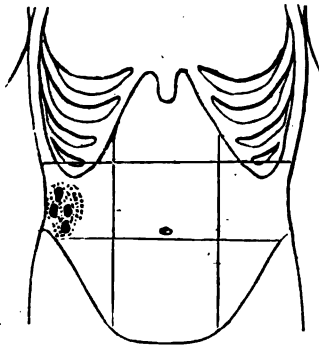


Case 7.—A woman who presented herself at the out-patient department of Mr. Tait's clinic. She had a very distressed face. On examination, a tumour dull on percussion was found in the right lumbar region. It was slightly movable inwards and very tender on pressure. It felt exactly like a distended gall bladder, and the symptoms of pain pointed to that. On opening the abdomen the surface of the liver came in view over the mass. The finger could pass under the edge of the liver to its under surface. The mass was evidently in its substance. A trocar was inserted into the swelling through the liver tissue, pus welled out, and a knife was passed down into the cavity traversing in its journey liver tissue three quarters of an inch thick. A large number of gallstones were now removed from this cavity in the substance of the liver. This proves conclusively that gallstones can form in the liver tissue. Mr. Tait does not think that they are ever formed in the gall bladder, but that after their formation in the liver they are washed down into the gall bladder. Cornil and Ranvier believe that almost

the only cause of inflammation of the mucous membrane of the bile ducts is the presence of biliary calculi in their interior. The feature of great interest here was the exact simulation by this abscess of the liver of a distended gall bladder.

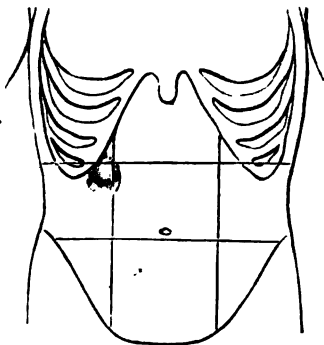


Case 8.—A lady with an enlargement in the right lumbar and iliac regions. Its hardness rather bespoke malignancy; but as she had had a large myoma removed previously, she now begged for an exploration. The tumour was not movable, but seemed fixed to the crest of the ileum. On opening the abdomen, it was found to be a mass of osteo-sarcoma springing from the crest of the ileum.



Case 9.—A young lady who was said to have a movable kidney. The physician in charge was sure of his diagnosis. Some two years before, she had a severe fall; and ever since, so she

thought, she had suffered from paroxysmal attacks of pain. An ill-defined fulness was noticed in the right lumbar region. On exploration, enlarged and calcareous mesenteric glands were found, with localised peritonitis.



Case 10.—A woman who came to the out-patient department complaining of intense pain. She was nearly bent double with it. It came on in paroxysms and then suddenly became easy for a time. Several paroxysms were noticed while she was being interviewed. Beads of sweat stood out on her forehead although the room was not hot. Her face also indicated her suffering. On examination, a mass was felt in the right lumbar region. It felt as if it contained fluid beneath thickened walls, was somewhat irregular in outline, dull on percussion, and slightly movable. It had many symptoms of dilated gall bladder. It felt as if attached to the liver above. The woman appeared very ill. On opening the abdomen a malignant mass was found attached to the colon and evidently springing from it.

These cases all present some common features. Exploratory incision proved to my mind the impossibility of absolute accuracy in diagnosis without it.

The growths that are found in the liver may deceive even the most experienced operators.

I recorded in case 6 an encapsulated growth springing from the border of the liver. A very peculiar case might be

profitably related in this connection. A lady was under the care of a young doctor for an enlarged and nodular condition of the liver. Two consultants saw her and pronounced it to be malignant disease. A very unfavourable prognosis was given. The husband sent the doctor over to consult Mr. Tait. He agreed, from the history, that it very probably was what the other consultants had said. Without exploring he could say no more. He was requested to go and do what he thought best. He made an exploratory incision, felt the liver surface studded with hard nodules, and gave a hopeless view of the case to the friends. Some time after, a lady met him and introduced herself as his former patient. She was quite well! The liver trouble had disappeared immediately after the exploratory incision. There is yet a field for study here.

Regarding one symptom mentioned in Case 4, namely, diminution in the size of the tumour, the same condition is found in cystic dilatations of the kidney. Paroxysmal pain, passage of a quantity of pus with the urine, and diminution of the size of the kidney may be noticed. External pressure on the gall bladder has been used as a means of partially emptying it. When jaundice occurs in these cases of obstructed cystic duct we may generally infer that cancer is present. The case I related was one of cancer, but no jaundice had occurred. In cancer of the pancreas one of the most characteristic symptoms, stamped with the weight of recent authority, is paroxysmal pain due it has been supposed to pressure or some interference with the solar plexus. The three chief symptoms given as characteristic of cancer of the pancreas in the last collection of cases made are "continued loss of flesh, paroxysmal pain, and the presence of undigested muscle in the stools." Certainly continued loss of flesh and paroxysmal pain must not be taken as representative. Jaundice and diabetes were only considered as accidental or occasional occurrences.

In the case of disease of the kidney, the freest movement was in a line parallel to the long diameter of the body. In the cases of distended gall bladder, the movement was freer in a

direction across the body. Whether this can be used as an aid to diagnosis can only be ascertained by exploratory incision in the future where the condition is noted before operation.

Regarding the frequent diagnosis of movable kidney, applied to many movable enlargements in the lumbar region, it is strange to note that out of 11,258 autopsies performed in Germany, only eleven cases of movable kidney were noted. I have met in my own practice with what I *supposed* were movable kidneys in six or seven cases; but should they prove troublesome in the future, I should not hesitate to explore them by intra- or extra-peritoneal section to verify or disprove my diagnosis.

I will give, before closing, a specimen of a diagnosis to be admired for its imaginativeness. It is not very long since it was published by a German author. A young lady suffered from violent colic, obstinate constipation lasting from six to seven days, swelling of the abdomen, retching, desire to vomit, and sensitiveness of the abdomen. The diagnosis of intestinal obstruction, due to the pressure exercised by a movable kidney on the ascending colon, was made. Another author dilates on the case, and deduces conclusions supposed to be fatal to the accuracy of the diagnosis. Unless such a mythical diagnosis be proven correct by *post* or *ante mortem* exploration, it is the height of folly for writers to mystify their readers by even mentioning it.

Parallels taken from comparative experiments on animals, especially when dealing with the kidneys, have given rise to many errors. The ureter of a dog was tied. It had been supposed that certain symptoms met with in cases of movable kidney were due to obstruction of the ureter from bending; but the dog went on secreting his urine as if nothing ailed him—*ergo*, the symptoms exhibited in cases of movable kidney were not due to obstruction of the ureter, but to congestion due to twisting of the blood vessels. In hydro- and pyonephrosis we have paroxysmal pains during the distention of the renal pelvis relieved when the calculus slips away and allows the fluid to

escape and recurring on the recurrence of the tension. If the kidney is cut down upon and the stone removed the pains cease with the twist in the vessels, if there be any, just as it was before. And further, in the pathological congestions of the normally-placed kidney we have none of these paroxysmal pains. The picturesquely drawn twists of the renal vessels are only imaginative, and therefore of no practical value.

An amusing feature of this subject presents itself to the searcher after wisdom. After wading through one exhaustive treatise on the subject of movable kidney the weary student is finally discouraged by the following sentence—"An enumeration of all possible sources of mistake would amount to a treatise on the diagnosis of abdominal tumours." Without a finger in the abdomen no man can give an infallible opinion as to the nature of a movable lump in this region.

PERISCOPE.

MEDICINE AND GENERAL PATHOLOGY.

BY ROBERT SAUNDBY, M.D. ED., F.R.C.P. LOND.

Erythro-Melalgia.—By John E. Morgan, M.A., M.D., Oxon., (*Lancet*, Jan. 5th, 1889, p. 10).—In the *American Journal of the Medical Sciences* for July, 1878, Dr. Weir Mitchell, of Philadelphia, described under this name, a painful and usually symmetrical affection of the feet, characterised by being induced by exertion in standing or walking. The feet become swollen and red during the paroxysms of pain, which are very acute. The disease is peculiarly intractable and lasts for many years. Dr. Morgan has met with five cases of this affection; one was successfully treated by local hypodermic injections of morphia and atropine. The hands may be similarly affected. Dr. Morgan discusses its pathology, and concludes that it is a peri-neuritis depending upon some cachectic taint.

The Pathology of Pernicious Anæmia.—By Wm. Russell, M.D. (*Brit. Med. Journal*, January 12th, 1889).—The author asks: "Is pernicious anæmia the result of diminished formation or of increased destruction of red corpuscles?" He thinks there is no evidence of diminished production, and that the replacement of yellow by red marrow in the long bones is due to an extraordinary effort of this tissue to meet the demand for red corpuscles. On the other hand there is evidence of increased blood destruction, demonstrable by the increased quantity of iron in certain organs derived from decomposed hæmoglobin. The method used when an organ is to be tested for decomposed hæmoglobin is as follows: a bit of it is put into a solution of ferrocyanide of potassium for some minutes and then transferred to dilute hydrochloric acid, when, if decomposed hæmoglobin be present, a blue coloration is produced. The depth of colour depends upon the amount of hæmoglobin present. The tissue, after the reaction is obtained, may be cut and mounted in balsam in the usual way, or sections of the tissue may be first cut and then tested and mounted. The distribution of the pigment can be determined by microscopical examination, but this is facilitated by staining the sections with eosine in order to make the elements of the organ examined more visible. The pigment is not as a rule obscured by this proceeding. In a case of pernicious anæmia a deep colour was produced in this way in the liver, spleen and kidneys. He next enquires, "Is it really a liver disease?" Is there an increase of the blood-destroying function of the liver, or do the blood corpuscles arrive in the liver in such a condition that the liver cells in the exercise of their normal function necessarily destroy them? He thinks the latter view is correct because the nuclei of the cells did not stain with Mitchell's logwood, shewing, in his opinion, loss of vitality, caused by over-work. He says the renal epithelium shews the same reaction when it has been over-worked. Investigating still further, he has found that as marked reactions could be obtained in liver, spleen, and kidneys apart from pernicious anæmia. The

following is a list of cases in which this was found:—The seven which gave a very deep blue coloration were—
 1, Cirrhotic kidneys with hypertrophied heart, in which death occurred from acute pleurisy on the right side;
 2, catarrhal jaundice, cirrhotic kidneys, and fatty heart; 3, carcinoma of lung, liver, and suprarenals, with a degree of diffuse cirrhosis of the kidneys; 4, malignant obstruction at the cardiac orifice of the stomach, where death occurred after gastrostomy; there was slight peritonitis, and the kidneys were somewhat cirrhotic; 5, diffuse malignant thickening of stomach and large intestine—acute peritonitis; 6, jaundice due to cancer of the head of the pancreas; also cancer of liver; 7, chronic parenchymatous nephritis.

From these evidences of blood destruction in other organs, and apart from pernicious anæmia, he supports his former conclusion that it is not a liver disease but a dyscrasia.

Case of general tetanoid contracture with a typhus-like eruption; recovery.—A. G. Barrs (*Lancet*, Jan. 12, 1889).—Dr. Barrs describes the illness of a man, aged 43, a foreman engineer in a large tannery, which began with stiffness of the jaws and neck and inability to swallow. The temperature rose once to 101°, but was otherwise normal. There were periodical exacerbations of the tetanic condition with occasional opisthotonos. There was profuse sweating and abdominal pain, with rigidity of the recti muscles. A port-wine coloured papular eruption was present, chiefly upon the surface of the chest and abdomen, less on the back and arms, and still less on the legs. The case lasted about five weeks but ended in perfect recovery.

Cardiac Failure and Sudden Death.—By J. A. McWilliam, M.D. (*Brit. Med. Journal*, January 5th, 1889, p. 6).—Dr. McWilliam believes that the ordinary notion that death by cardiac failure is due to stoppage of the heart in diastole is exceptional if one exclude those cases in which there has been some very obvious cause acting from without upon the heart, for example—excess of chloroform, profuse hæmorrhage, asphyxia, etc. When sudden failure occurs apart from the influence of such gross causes—

when the cardiac collapse has been due to more obscure and impalpable changes—the state of the organ is, as a rule, entirely different from simple standstill in a state of diastolic quiescence. It assumes, on the contrary, the form of violent, though irregular and inco-ordinated, manifestations of ventricular energy. Instead of quiescence, there is tumultuous activity, irregular in its character and wholly ineffective as regards its results ; and a similar condition obtains even in many cases due to some of the obvious and tangible causes of cardiac failure above alluded to, for example, excess of chloroform. Such an irregular phase of cardiac activity was first described by Ludwig and Hoffa many years ago, as the result of the application of strong galvanic currents or faradic currents to the ventricles of the dog's heart. Kronecker found more recently that he could induce a similar result by puncturing with a needle a certain part of the ventricular substance. The condition in question has been studied by various investigators, and its general characters are now clearly ascertained. The normal beat is at once abolished, and the ventricles are thrown into a tumultuous state of quick, irregular, twitching action ; at the same time there is a great fall of blood-pressure. The ventricles become distended with blood, as the rapid quivering movement of their walls is wholly insufficient to expel their contents. The muscular action partakes of the nature of an arrhythmic, inco-ordinated, and rapidly-repeated contraction of the various muscular bundles. Some bundles are in a state of contraction while other bundles are relaxed, and so, instead of a co-ordinated contraction leading to a definite narrowing of the ventricular cavity, there occurs an irregular and complicated arrhythmic oscillation of the ventricular walls which remain in a position of diastole. This condition is very persistent, and it is easy to kill a dog by applying a faradic current to the ventricles. Various names have been applied to denote the peculiar form of action under consideration—fibrillar contraction, delirium cordis, intervermiform movement, etc. He says, "the mechanism of fibrillar contraction I cannot

enlarge upon here. I have already discussed it in the *Journal of Physiology*, vol. viii. I regard the condition as an outburst of disordered excitement in the ventricular muscle; a rapid succession of inco-ordinated contractions travelling peristaltically along the complexly interlaced anastomising fibres of which the ventricular walls are built. Recovery is quite possible in many animals, most readily in the lower mammals. In the cat I have seen a restoration of the normal cardiac beat after the ventricles had been in delirium for more than an hour. Rhythmic compression of the ventricles with the hand was kept up, and pilocarpine was injected into the circulation. Pilocarpine has a decided tendency to check the fibrillar movement, depressing, as it does, the excitability of the cardiac muscle. In conclusion, admitting the possibility of sudden syncope from plugging or obstruction of some portion of the coronary system, and the probability of sudden syncope from inhibitory influences, or in consequence of mechanical overdistension, or from pressure on the organ, it is very probable that in many of these cases the fatal issue is determined or ensured by the occurrence of fibrillar contraction in the ventricles. Moreover, there is reason to assume that, in a certain number of instances, where none of the above-mentioned causes are present in any marked or dangerous degree, a sudden, unexpected, and irretrievable cardiac failure may, even in the absence of any prominent exciting cause, present itself in the form of an abrupt onset of fibrillar contraction (ventricular delirium). The cardiac pump is thrown out of gear, and the last of its vital energy is dissipated in a violent and prolonged turmoil of fruitless activity in the ventricular walls."

Cardiac Polypus—Causing Sudden Death.—By W. H. B. Aikins, M.D. (*Canadian Practitioner*, December, 1888).—The subject of the autopsy was an old negress, who had been admitted to the Toronto General Hospital, to be operated upon by Dr. Reeve, for the removal of a cataract. The operation was done without the administration of a general anæsthetic, but by the aid of a local application of cocaine. The operation

was successful, and the wound healed kindly, but the patient suddenly expired on the sixth day after operation. No cardiac lesion had been detected upon stethoscopic examination before she underwent operation.

The main features of interest of a pathological character were the fibroids of the uterus—above six pounds in weight—which had undergone extensive calcareous degenerative changes, but of still greater interest was the condition of the heart. The valves were free and the cavities normal, save the right auricle, which was dilated and almost entirely occupied by “a true polypus,” or a true polypoid growth resembling an organised *ante-mortem* coagulum, and attached by a firm pedicle to a point corresponding with the situation of the eustachian valve in the *sinus venosus*. The pedicle, which was half an inch broad, was covered with endocardium, continued also over a portion of the mass. This polypoid, pear-shaped growth was elastic, tough and tenacious, measuring two inches in its long diameter.

OPHTHALMOLOGY.

BY E. WOOD-WHITE, B.A.; M.B.

A Contribution to the Pathology of Albuminuric Retinitis.—Dr. T. Weeks (*Arch. Ophth.*, 1888).—This paper is based on the histological examination of six globes removed from individuals who have had kidney disease. Very full microscopical details are given of each case. The conclusions the author comes to are that there is but little inflammation in cases of albuminuria affecting the eye, as the appearances he found for the most part were caused by the escape of the elements of the blood from the vessels; in mild cases the watery part only escaping, and producing simple oedema; in more severe cases all the elements transuding and causing very marked changes. He considers that two classes of retinal changes are included under the present term Albuminuric Retinitis, one depending on the condition of the blood brought about by acute disease of the kidney, the

general symptoms preceding the change in the retina ; the other depending on a general diseased condition of the blood vessels in which the ocular symptoms frequently are noticed before the kidney symptoms. To the former belong all forms of acute nephritis, in which cases there are usually at first œdema and white exudations, hæmorrhages following. To the latter class belong the cases in which the first retinal change is a small hæmorrhage in the vicinity of the macula. This is probably a strangulation nephritis in which the blood supply is cut off by arterial stenosis ; the kidney is usually contracted, and the morbid element in the blood causes a thickening and degeneration of the walls of the vessels.

Grafts from the Mucous Membrane of the Mouth to Supply Defects in the Mucous Membrane of the Eye.—W. Smith (*Arch. Ophth.*, 1889).—The case was that of a child who had had a severe attack of ophthalmia neonatorum the result being that almost the whole mucous surface of the upper lid of the left eye became absorbed, causing entropion. The ordinary operations having failed to correct the incurving it was decided to supply the place of the conjunctiva by mucous membrane taken from the mouth. A strong thread was passed through the lid near the centre of its free margin, and by means of the loop thus formed, the lid was everted over a rubber spatula and held firmly in position. An incision was then made on the inner surface of the lid about one line from and parallel to the margin ; this incision was carried almost to the outer cuticle, and by drawing on the thread the wound was made to gape until the inner surface of the lid was of normal width. The inner surface of the cheek was then cleansed with a boric acid solution and a piece of mucous membrane, with the submucous areolar tissue of about the required size, was dissected out. This was then placed on a smooth surface of cork while manipulated, saturated with drops of warm salt water, and trimmed with a sharp knife. Several sutures were then inserted, the membrane fixed in its new position and the wound dressed antiseptically. Every part of the buccal membrane became firmly attached in its new position, and the entropion was completely cured.

On Certain Cases of Vitreous Opacity in Connection with Exceptional Causes.—J. Hutchinson (*Ophth. Review*).—The object of this paper is to record a few cases illustrating some of the rarer conditions under which opacities of the vitreous become a conspicuous phenomenon. Opacities rarely occur in affections of the choroid, iris, or cornea, but there is a peculiar form of relapsing iritis in which they often become a prominent symptom, and they occur almost constantly in the iritis due to inherited gout. The author has seen a few cases in patients who were debilitated by sexual excess, especially masturbation. He mentions the very interesting case of a lad aged sixteen, apparently in good health, who had severe retinitis of the left eye, and the vitreous full of filmy opacities. His circulation was feeble in the extremities, and he suffered from chilblains in cold weather. He discovered dimness of the left eye some months before examination, during which time he frequently felt the eye hot and uncomfortable. He never masturbated or suffered from constipation or headache. The opacities in the vitreous were very firm, and there was no doubt that the margins of the disc were blurred and the adjacent retina hazy. All the usual causes of opacities in the vitreous were absent except a history of gout on both sides of his family, which was very definite. Another interesting case is mentioned where attacks of opacity in the vitreous seemed to follow the prolonged use of arsenic. A gentleman of middle age, the subject of psoriasis, had taken the drug in large quantities for many years. A few months before Mr. Hutchinson was consulted a relapse of the psoriasis caused the arsenic to be taken freely. At the same time that the eye was affected there was marked keratosis of the palms, which the author considers is not a part of the skin disease but due to the influence of the arsenic, and a sign that the patient was saturated with the drug.

The Use of Glasses in Hypermetropic Children.—By W. C. Macnamara (*Brit. Med. Journal*, February, 1889). The author considers the advisability of children suffering from absolute hypermetropia wearing spectacles, excluding those

suffering from strabismus. He has examined a considerable number of children under atropine, and has found the larger number hypermetropic, which he thinks depends on the formation of the orbital fossa and of the eyeball, which are relatively flatter to the rest of the skeleton in childhood than in adult life. He admits that the symptoms which many of these children complain of are relieved by glasses, but contends that the treatment is only palliative, and is likely to fix the eyeball in its flattened condition. The hypermetropia is especially liable to become permanent in rachitic children, because the sclerotic is one of the connective tissue series. Mr. Macnamara is therefore of opinion that children should only wear glasses occasionally, when their work is prolonged, and that the aim of the surgeon should be to place them in a condition where the use of spectacles will not be required, and by exercise and country life help to develop their eyes and bodies. He states that he has several cases in his note books where such treatment has resulted in a gradual diminution of the hypermetropia.

A Case of Dyslexia.—Dr. Neiden. (*Arch. Opth.*)—The term "dyslexia," which is of recent date, signifies an inability to read to one's self or aloud for more than four or five words. Such a case is reported very fully. The patient was a young and healthy man who suddenly got an eclamptic attack while raising himself in bed. This seizure left behind no other effect than general weakness, headache, and tender spots over some of the vertebræ. Eight days subsequently there was a similar attack, the spasm affecting chiefly the right upper extremity. This was recovered from as before, except that the patient was unable to read more than a few words. Some weeks after the bladder became paralysed, followed a few days later by a transient paralysis of the facial muscles, and the extremities of the right side. A few days after the patient died in a deep sopor. The importance of recognising this dyslexia is that the probability of a grave cerebral affection can be easily diagnosed. The autopsy showed three apoplectic foci located in and around the corpus striatum of the left hemisphere, which, according to their situation, were evidently

in casual connection with the three separate attacks, and the disturbance in the power of reading. Broca's convolution was not in any way involved, while the subcortical white substance of this region was extensively destroyed. Nieden accordingly supposes the existence of a mental æsthesia—a diminution of strength—which depended upon a disturbance of nutrition in the organic part of the brain presiding over the function of reading.

Total Congenital Staphyloma of the Cornea with Dermoid formation.—S. Bernheimer (*Arch. Ophth.*, 1889).—The case of a child aged six months is related, the lids of whose right eye were separated by the protrusion of two tumours each about the size of half a cherry. The cornea was almost completely covered by the growth, a very small triangular space alone remaining free. They did not lie in the cornea but appeared to pass into corneal and scleral tissue, and in colour they resembled the integument. Another tumour existed at the root of the right ala of the nose. The eye was enucleated, the palpebral fissure being enlarged to permit the passage of the globe. Macroscopical examination showed that the tumours described intra vitam could not be regarded as such; but were staphyломatous protrusions of a thickened cornea with total adhesion of the iris. Microscopical sections showed that instead of cornea the anterior portion of the globe was composed of integument. From the periphery towards the centre the epithelium was of three times the usual thickness, the outer layers resembling epidermis. In some places there were hair bulbs with well-developed sebaceous glands and bundles of connective tissue passing between. Here and there in the sections places were seen where true corneal tissue existed. The entire inner surface of the pseudo-cornea was covered by a thin layer of pigment which extended from the ciliary border, and which represented the pigment layer of the iris. The dermoid character of the tumour was established by the microscopical examination. The interest of the case lies in the fact that the tumour did not grow, as usual, superficially from the cornea and sclerotic but included these tissues, that there was

but little true corneal tissue, and that the iris was rudimentary and adherent throughout the whole of its extent to Descomet's membrane. Bernheimer leans to the hypothesis that dermoid tumours may be the remains of early adhesions between the inner layer of the amnion and the surface of the embryo, apparently such synechia could only occur before the amnion fluid has formed, when the eyelids are undeveloped. This theory would not completely explain the above-described condition, and the author believes that there was, in addition to the dermoid growth, an intra-uterine perforation of the cornea, inflammation from which extended to the iris.

A Case with High Degree of Astigmatism after Cataract Extraction Improved by Operation.—Dr. Schiotz (*Arch. Ophth.*, 1888). The patient had zonular cataracts, and the left eye was first operated on, an iridectomy being performed, and the lens extracted after being rendered opaque by several incisions. During the healing process a piece of lens mass which had been left came to lie against the inner side of the wound in such a way as to push the corneal flaps forward. This caused the wound to heal so that a considerable alteration of the corneal curvature resulted after the lens matter became absorbed. Some months afterwards examination showed 19·7 dioptries of corneal astigmatism. An incision was then made with a Graefe's knife through the base of the most bulging part of the cornea, and a small flap of corneal tissue was removed with a De Wecker's scissors. No alteration in the astigmatism resulted. The operation was repeated in a few weeks, and a flap cut from the upper lip of the wound, the result being that the astigmatism was relieved by several dioptries. The operation was again repeated, the incision being made upwards and inwards, making an obtuse angle with the original corneal section. After this operation the astigmatism was reduced to 7 dioptries, so that the total reduction was equal to 12·7 dioptries. The author states that, as far as he knows, this is the first case in which astigmatism has been remedied by an operation.

REPORTS OF SOCIETIES.

MIDLAND MEDICAL SOCIETY.

January 23rd, 1889, ARTHUR FOXWELL, M.B., M.R.C.P.,
in the Chair.

Addison's Disease.—Dr. Suckling read notes of and shewed specimens from a case of Addison's disease without marked pigmentation, recognised during life. The patient, a man aged 40, had been ailing about nine months, feeling languid and too feeble for work. His strength rapidly failed, and for the last three months of his life he was unable to work. He had suffered from attacks of vomiting and flatulence and had complained of backache. Latterly he had had attacks of fainting and vertigo. Any sudden movement made him giddy. During the last six weeks of his life he had been much worse, fainting even when he sat up in bed. When he was admitted into the Queen's Hospital he was extremely prostrate, being quite unable to sit up in bed, and scarcely able to speak. He was thin, but not markedly emaciated; his complexion was dusky, but the pigmentation was insufficient to attract attention. A few dark brown spots were present on the arms and forearms; the axillæ, mammary areolæ and umbilicus were dark coloured; the mucous membrane of the mouth was not pigmented. The patient stated that he thought he had been getting darker in complexion during his illness, but his wife had not noticed any change. There was a little tenderness over the area of the supra-renal capsule on each side. He died suddenly a few days after admission. There was no family history of importance; he had been a foreman in a factory and for years was occupied for many hours daily in a dusty warehouse. At the autopsy, caseous nodules were found at the apex of each lung; the heart weighed only eight ounces, and was very flabby. The liver weighed 3 lbs. 5½ ounces and was fatty. The supra-renal capsules were not much enlarged, but both were full of caseous tubercle.

Dr. Suckling stated that the extreme exhaustion with syncopal attacks enabled him to make a decided diagnosis before death, and that the presence of vomiting and backache confirmed him in his opinion. The pigmentation was slight and unobtrusive.

Natiform Skull.—Dr. Suckling shewed a child, aged 18 months, with a well-marked natiform skull. The mother had had two children born dead, this child being the third. A few weeks after birth the patient was ill, and had snuffles, but there was not any rash. At the present time the skull is of the hot cross bun type, the complexion sallow and earthy. The lower epiphysis of the radius on each side is enlarged, and the ribs nodulated. Dr. Suckling considered the natiform skull as marked as in this case to be rare in infantile syphilis, but considered that it was when present pathognomonic of the disease.

Report on Dr. Suckling's case of Carcinoma of the Pancreas.—Dr. Hogben reported that he had examined this specimen, and that he regarded it as scirrhus carcinoma in which the fibrous tissue element was very much developed.

Horny growths from the skin.—Mr. Haslam shewed two horny growths that he had removed from a patient aged 52. One had been growing for fifteen years, from about two inches above the upper border of the sternum; this the patient had been in the habit of cutting from time to time, when it got in the way of her dress. The other grew from the right upper eyelid, and was first noticed nine months ago. Both were extremely dense, and about three-quarters of an inch in length.

Atrophy of Finger-nails.—Dr. Foxwell shewed a girl, aged 19, in whom six finger and three toe-nails had almost completely crumbled away, the remains feeling like bits of parchment beneath the cicatricial-like tissue which had grown over them from the superficial layer of the matrix. In two fingers this cicatricial tissue, peculiarly dense in structure, could alone be detected. Neither the girl nor her mother could give any definite date as to when the degeneration of the finger-nails began, but both agreed it was before the patient went out to work, at the age of twelve. The toe-nails had only been noticed for two years.

There was no history of any injury or ulceration, nor indeed of any acute period of the disease. The condition had never attracted attention from pain nor from any annoyance it had caused the girl in her work. To use her own words, "the nails would simply grow a bit and then break off again"; but this had always been a perfectly dry process. The patient was tall and well developed; she came complaining of general pains and feebleness, and her circulation was evidently sluggish. Indeed, as long as she could remember she had suffered from dead hands and feet; in the summer as well as winter. There were no signs of syphilis or struma in the girl or her mother; nor could any family history of these be obtained. Dr. Foxwell considered the case one in which the complex nail structure had been replaced by fibrous tissue, owing to defective blood supply.

Mr. Barling read a paper on Lupus which will shortly be published.

February 20th, 1889, HUGH KER, F.R.C.S. ED., President, in the Chair.

Jacksonian Epilepsy due to a cortical growth.—Dr. Suckling shewed a boy, aged 8, suffering from paresis of the right upper and lower extremities and occasional convulsive seizures, beginning in the great toe and spreading upwards, ultimately involving the whole of the right lower and upper extremities. The boy had complained of headache, chiefly frontal, but more on the left side than on the right for about twelve months, and eight months ago he was thought to be lame in the right foot. Three months ago after having suffered severely from headache, he fell down in the street in a fit; and weakness of the right side was noticed afterwards. While in the Infirmary he had had many convulsions, always preceded by an aura commencing in the right big toe. The right extremities and right side of the face were alone convulsed, the face being only slightly affected. There had been no loss of consciousness during the attacks.

At the present time there is decided weakness of the right extremities, the grasp of the right hand being much weaker than that of the left and the movements of the right arm are ataxic and tremulous. The left foot is partially dropped, paresis being much more marked in the foot than elsewhere. Muscular sense is impaired in the right upper extremity. The deep reflexes are exaggerated and there is ankle clonus on the right side. There is no anæsthesia. There is decided, but not intense, optic neuritis, and headache is at times severe. There has been no vomiting or vertigo at any period of his illness. There are no signs of scrofula about the boy, no history of syphilis in the father or mother, but the father is suffering from advanced phthisis and several members of his family have died of phthisis. Dr. Suckling considered that there was no doubt about the existence of a tumour, either in the grey matter or immediately beneath, in the upper third of the ascending frontal convolution; the tumour most probably being scrofulous in nature. The application of a blister over the motor area on the left side of the scalp, together with the administration of iodide and bromide of potassium with small doses of mercury had checked the convulsions, but had not improved the paresis. The boy is now taking cod liver oil and iodide of iron, and Dr. Suckling proposes trephining for the removal of the growth unless improvement takes place within a few weeks.

Paroxysmal Tremor.—Dr. Suckling shewed a man, aged 60, a labourer, who for two years had suffered from attacks of violent tremor of the right upper extremity. The patient had not had syphilis, but had occasionally suffered from rheumatic pains in the knees. He is a heavy smoker, smoking at least four ounces of cavendish a week. Fourteen years ago his eyesight became dim, and he had to be lead about, but he rapidly recovered from this. Dr. Suckling had witnessed two of the attacks; one of them was induced by the noise of a falling blind in the out-patient room. The tremor affected the right upper extremity only, it was of great amplitude and violence consisting of very rapid flexion and extension of the forearm,

which could not be controlled voluntarily or by force. There is no aura preceding an attack, but coincidently with the onset of the tremor the patient perceives pain in the upper part of the right thigh. There is no loss of power in the right arm or leg, no alteration in the reflexes and no optic neuritis. Emotional disturbance or a loud noise, especially if sudden and unexpected, at once brings on the spasm. The tremor ceases abruptly and spontaneously, the patient saying it ends "as with a snap." He has had no head injury, and there is no sign of paralysis or rigidity. His father was a great smoker and died insane. Dr. Suckling considered that the tremor would probably become continuous, and the case become one of paralysis agitans.

Osteitis deformans.—Mr. Augustus Clay shewed a woman, aged 57, but looking older, suffering from osteitis deformans. There was an entire absence of any hereditary or constitutional taint of syphilis, and she "had never had a day's illness in her life." The beginning of her trouble was ten years ago, when her left leg suddenly swelled, from no known cause, and became very painful. The pains were of a rheumatic nature and nearly always present until two months ago, when they became more spasmodic in character and less frequent. Four years ago the tibia and fibula of the same side commenced to bend forwards and the femur outwards. The tibia, at the time the curvature was first noticed, was quite normal as regards its lateral dimensions, but from that time up to the present the above mentioned curves have much increased: its internal surface has become slightly nodular in places and quite double the normal width, with its edges markedly rounded. The tibia, during the last six months, has curved outwards as well as forwards, and the skin on that side is distinctly hotter than the opposite. The patient's friends have *imagined* that she is not quite so tall as formerly, but do not seem certain on this point. The rest of the body was absolutely normal.

Abscess of Brain.—Mr. Whitcombe exhibited the brain of a man who eight weeks previously had sustained a fracture of the base of the skull. The left temporo-sphenoidal lobe was the

seat of a large abscess. The symptoms during life were those of compression, there being no symptoms of abscess or of localised brain mischief. The case was pointed out as one shewing the serious obstacles to be met with in diagnosis, especially in relation to brain surgery. Mr. Whitcombe also alluded to the difficulties presented in distinguishing between the delirium of traumatism and insanity.

Pulmonary Cavities, due to causes other than the breaking down of tubercular deposits.—Dr. Foxwell read a paper upon this subject.

Pedunculated Myomata.—Mr. J. W. Taylor shewed three specimens that he had successfully removed by the *écraseur*.

REVIEWS.

SELECT METHODS IN THE ADMINISTRATION OF NITROUS OXIDE AND ETHER.*

THIS useful little manual is intended mainly to explain how ether or gas, either singly or together, may be best administered. There is no attempt at a full discussion of the merits of the different anæsthetics or the cases most suitable for each. Four methods are described in detail and the necessary apparatus is explained by diagrams. The first is for the administration of nitrous oxide alone, the second for ether alone, the third for nitrous oxide with a small quantity of ether, and the fourth for nitrous oxide and ether when the latter is to be pushed to deep and prolonged anæsthesia. The two last are of special value and are unfortunately rarely adopted for two reasons, viz., because of the cumbersome nature of the apparatus, which is carried about with difficulty, and because of the expense of apparatus and anæsthetics. It would be interesting to know

* Select Methods in the Administration of Nitrous Oxide and Ether. By Frederick Hewitt, M.A., M.D. Cantab. London: Ballière, Tindall, and Cox.

from Dr. Hewitt whether he does not find a difficulty on the last mentioned ground in hospital practice. We think it a great pity that practitioners generally are not more intimate with the administration of ether. It is undoubtedly safer than chloroform in most cases, but being more difficult to administer is often ignored.

DISEASES OF THE SKIN.*

DR. RADCLIFFE CROCKER'S work is a useful addition to the literature of this subject, and will prove of much value to those anxious to acquire a thorough knowledge of diseases of the skin.

Part I. begins with a complete description of those objective symptoms with which a familiarity is so essential before proceeding to study the different forms of disease. Attention is drawn to the natural "cleavage" of the skin dependent upon the arrangement of the connective tissue bundles, and a diagram shows at a glance the lines along which cleavage occurs. Following this are some general remarks on etiology, pathology, diagnosis and treatment, and Part I. closes with an elaborate classification.

Part II. (664 pages) is devoted to a consideration of the different forms of skin affections, including some of the more common endemic and tropical ones, a matter of no small importance to those intending to practise abroad. The appendix contains information as to mineral waters, the various spas, and a long list of remedies; the 76 neatly executed illustrations adding materially to the value of the work.

Dr. Crocker is to be congratulated on having produced a work on dermatology that, in completeness of detail and accuracy of description, is all that can be desired.

* Diseases of the Skin; their Description, Pathology, Diagnosis, and Treatment. By H. Radcliffe Crocker, M.D. Lond., F.R.C.P., Physician to the Department for Diseases of the Skin in University College Hospital. London: H. K. Lewis.

DATEN UND TABELLEN FÜR MEDICINER.*

THIS remarkable and encyclopædic book consists of a collection of tables on every conceivable subject likely to be of interest to a medical man. It is divided into anatomical, physiological, physical, and practical sections. The first contains tables relating to body-length, weight, growth and proportions, weights, measurements and volumes of organs, in foetal, infantile, and adult life. The physiological and physical sections are also exhaustive, especially the former.

Amongst the subjects dealt with in the practical part are the temperatures of different resorts, incubation periods of disease, table of comparative doses in different pharmacopœias, size of catheters, with other data. As may be gathered from what has preceded this is not a book to read but to keep at hand for reference. Each time it is opened the reader will be freshly struck by the stores which it contains. Finally it may be said that its price bound, 10 marks, is decidedly moderate for so well got-up a book.

EPITOME OF DISEASES AND INJURIES OF
THE EAR.†

THIS small octavo volume of one hundred and twenty-six pages, in which is epitomised the chief features of aural surgery, has been prepared as a work of reference compact enough to carry in the pocket. Its small size will enable the student to use it both in ward work at the hospital and as a refresher to the memory before examination: while the busy practitioner will find it a ready reference in his daily work.

* *Daten und Tabellen für Mediciner.* Von Dr. Hermann Vierordt. Jena: Gustav Fischer. 1888.

† *Epitome of Diseases and Injuries of the Ear, with a chapter on Nasopharyngeal Diseases causing Deafness.* By W. R. H. Stewart, F.R.C.S., L.R.C.P. Edin., Aural Surgeon to the Great Northern Central Hospital, &c. London: H. K. Lewis. 1888.

NEW INVENTIONS, DRUGS, ETC

WARD COUSINS' GLYCERINE ENEMA SYRINGE AND RECTAL OINTMENT INJECTOR.—The former is the best apparatus we have seen for the purpose ; it consists of an india-rubber ball reservoir of three drachms capacity, furnished with a vulcanite nozzle which can be unscrewed from the ball to allow of this being filled. The Ointment Injector is very ingenious, but will necessarily be less in demand than the Glycerine Syringe.

Obituary.

JOHN CARTER, M.R.C.S., L.S.A.

THERE will soon be very few persons left who remember old Birmingham, when Broad Street was the Broad Road with houses no farther up than where the Children's Hospital now is, when the General Hospital still stood amongst green fields and Summer Lane did not seem to have been named in cruel irony; or who can recall memories of old Mr. Baskerville, the printer, walking about in his blue coat with brass buttons and nankeen shorts. One of these links with the past has been lost by the death of Mr. John Carter, which occurred at his residence, 20, Francis Road, Edgbaston, on March 18th, at the advanced age of 81 years.

Coming of a stock for many years settled at Kenilworth, Mr. Carter was born at Coventry and entered the medical profession by becoming indentured as apprentice to Mr. Edward Laxon, a leading practitioner in that town, who, although a graduate of the University of Edinburgh, dropped his academic title, as was the custom in those days when the general medical practitioner practised only as a surgeon and apothecary.

After completing his apprenticeship, Mr. Carter entered the Birmingham School of Medicine which Mr. Sands Cox had established in Snow Hill. After going through his curriculum and attending as a pupil at the General Hospital, or the "Old Hospital" as he always called it, he obtained the license of the Apothecary's Society in 1832. His first appointment was that of resident apothecary at the Stourbridge Dispensary where he received £70 a year with unfurnished rooms and coals, having to provide himself with attendance and food ; and he was accustomed to relate, with some pride, that he managed to save £20 in the year he retained this office.

At the end of that time he secured the appointment of senior resident apothecary at the General Dispensary in this city, a post he retained for nearly twenty-three years. At that time the Dispensary was officered by a staff of honorary physicians and surgeons and two resident apothecaries. The town was divided into two districts, one lying to the west of Digbeth, Deritend, Bull Ring, High Street, Bull Street, and Snow Hill ; the other to the east. That on the west being the larger fell to the lot of the senior resident. In addition, each physician and each surgeon had districts assigned to them forming parts of these primary divisions, within which they were liable to be called in consultation to cases requiring their aid, while the surgeons undertook all the midwifery cases. Mr. Carter and his colleague used to make

their rounds on horse-back, and this practice continued until a few years before Mr. Carter's retirement, when failing health induced him to set up a phaeton at his own expense.

How faithfully and well he performed the onerous duties of this office is well known, and was amply witnessed to in the flattering and handsome testimonials which were presented to him by the committee and governors and his medical colleagues and friends on his leaving the Dispensary in 1856.

Mr. Carter then started in practice on his own account in the Hagley Road, in a house a few doors below the "Plough and Harrow," and at present rented so as to form a part of that hotel.

In this situation he secured a moderate amount of practice amongst old friends, and gained an income more than sufficient for his moderate wants. for although married he had no children. Unfortunately his health, which had been broken by the hard work and exposure attendant on his long years of service to the Dispensary, gave way so far that in 1868 he was advised to retire altogether, and, being possessed of some private means, he decided to relinquish practice. The result so far as concerned his own health was favourable. In the genial climate of various south coast health resorts he found he could pass the winter agreeably enough, while he spent the summer in Scotland. But his happiness was greatly disturbed by the illness of his wife, which, after continuing for some years, ended in her death in 1876.

For some years Mr. Carter saw little of Birmingham, but about eight years ago he returned and took up his permanent abode in the house where he lately died; at the same time he rented a house at Braemar, in Aberdeenshire, to which he repaired so soon as the spring was sufficiently advanced and where he remained till late in the autumn, dispensing hospitality to a succession of visitors. Our readers may remember that it was on his way to visit Mr. Carter at Braemar that the founder of this Review, Dr. Heslop, met with his sudden death four years ago.

No notice of Mr. Carter would be complete without some reference to his character and tastes. Of an eminently genial and happy disposition, he had no ambition except to enjoy life and see others enjoy it with him. His great pleasure and pursuit was fishing, and he was a master of the gentle craft. He has told the present writer that many a time when an apprentice at Coventry he has got up early in the morning and let himself down from the window to steal off for a few hours fishing before the work of the day began. Later in life all his holidays were spent in excursions to Wales, Ireland, or Scotland in quest of salmon, salmon trout or loch trout. He kept up his salmon fishing until about seven years ago when he got a severe attack of cystitis from a chill caught in wading, but he was able to enjoy trout-fishing in lochs and rivers until three years ago.

Possessed of more than sufficient means he enjoyed the pleasure of doing many kindly actions to old friends and those dependent on old friends who were not so favourably circumstanced. He gave away all his surplus income, in paying for the education of those who were young and in helping to maintain those who were old or unable to earn their own living. In his house at Braemar he entertained his friends with genial hospitality, taking especial care to do the honours of the place to them, and always disappointed if any one went away without having seen every place of interest within reach. In him many have lost a benefactor and, still more, a kind and faithful friend.

He was buried by the side of his wife in Old Edgbaston Churchyard, the funeral being attended by a large number of personal friends as well as by the few relatives he possessed.

Miscellany.

AN EXHORBITANT FEE (Fact).—A correspondent writes :—A woman brought her daughter to a friend of mine practising in the "Pottery" district. The girl had dislocated her jaw, which dislocation was soon reduced by the usual method, and a bandage applied to keep it in position. On being asked the fee, my friend, not having had a similar case in private practice, went into another room and consulted a tariff of medical charges published by the Shropshire Ethical Society, and found "for reducing dislocation of jaw 1 to 3 guineas." Seeing the woman was not in good circumstances he felt that the minimum fee was not likely to be forthcoming, so he tentatively asked whether the girl had ever had the jaw out before. "Oh, yes, sir," she replied, "about twelve months ago, and was treated by a doctor at ———." "How much did he charge you?" "A shilling, sir!" "Didn't that strike you as being a somewhat peculiar fee?" "Well, sir," was the reply, "*we did think it a good deal.*"

AT THE NEW YORK HOSPITAL.—Surgeon : "What brought you to this dreadful condition? Were you run over by a street-car?" Patient : "No, sir; I fainted and was brought to by a member of the 'Society of First Aid to the Injured.'"—*Life*.

New Books, etc., Received.

On Syphilitic Affections of the Nervous System; their Diagnosis and Treatment. By T. McCALL ANDERSON, M.D. Glasgow: James Maclehose and Sons. 1889.

The Physician as Naturalist. Addresses and Memoirs bearing on the History and Progress of Medicine chiefly during the last hundred years. By W. T. GAIRDNER, M.D., LL.D. Glasgow: James Maclehose and Sons. 1889.

Transactions of the Royal Academy of Medicine in Ireland. Vol. VI. Edited by WILLIAM THOMSON, M.A., F.R.C.S. Dublin: Fannin and Co. 1888.

Femoral Osteotomy for the Correction of Deformity resulting from Hip Joint Disease. By AP MORGAN VANCE, M.D.—Cases in Orthopædic Surgery. By the same Author. Both reprints from the *New York Medical Journal*. The Middlesex Hospital Reports for the year 1887. London: H. K. Lewis. 1888.

The Treatment at the Bournemouth Mont Dore. By GEORGE MAHOMED. London: Baillière Tindall and Cox. 1889.

Jenner and Vaccination: A Strange Chapter of Medical History. By CHARLES CREIGHTON, M.D. London: Swan, Sonnenschein & Co. 1889.

Lectures on Bright's Disease. By ROBERT SAUNDBY, M.D. Edin. John Wright and Co.. 1889.

Elements of Histology: By E. KLEIN, M.D., F.R.S. Cassell and Co. Ltd. 1889.

A Text-book of Pathology, Systematic and Practical. By D. J. HAMILTON, M.B., F.R.C.S.E., F.R.S.E. Vol. I. MacMillan and Co. 1889.

The Early Recognition of Cancer of the Cervix Uteri. By HENRY C. COE, M.D., M.R.C.S. Reprinted from the *Medical News*, February 16, 1889. Board-School Laryngitis. By GREVILLE MACDONALD, M.D. Lond. Alexander P. Watt. 1889.

Clothing. By FRANCIS VACHER, F.R.C.S. Reprinted from the *Provincial Medical Journal*, March, 1889.

NOTICE.—All Communications should be addressed to the Publishers, Messrs Hall and English, 71, High Street, Birmingham.

THE
BIRMINGHAM MEDICAL REVIEW.

MAY, 1889.

ORIGINAL COMMUNICATIONS.

THE ELECTRIC CYSTOSCOPE AND THE METHOD
OF USING IT, WITH NOTES OF CASES.*

BY GILBERT BARLING, F.R.C.S.,
ASSISTANT SURGEON TO THE GENERAL HOSPITAL, BIRMINGHAM.

THANKS to the efforts of Nitze, of Berlin, and of Leiter, an instrument maker of Vienna, the visual examination of the bladder has been brought to an almost perfect condition by the use of the electric light. Unfortunately dissension has arisen between the two inventors who for some time worked amicably together, but into this quarrel it is unnecessary to enter. The result is that we have two sets of instruments much resembling each other, but with slight variations in their details, the differences not being of sufficient importance to give the pattern of either inventor marked advantage over the other.

The instruments I show here to-day are of Leiter's manufacture. One, with the light and the window on the convexity, is used for examining the inferior and posterior walls of the bladder; the other, with the light and the window on the concavity, is used for examining the superior and anterior walls. Either instrument may be so manipulated as to bring into view nearly the whole of the cavity, so that it is not a necessity to possess

* This paper was read at the meeting of the Birmingham and Midland Counties Branch of the British Medical Association, March 14th.

both, though it is advisable to do so; if I had to depend upon one only I should prefer to have that with the light and window on the concavity. I may mention here that it is convenient to refer to this latter instrument as the *superior* light, that with the window and light on the convexity as the *inferior* light.



Apart from the differences already mentioned in the positions of the light and the window, the construction of the instruments is similar. Each consists of the beak, the shaft and the ocular end. The beak, about an inch long, contains the little incandescent lamp which is surrounded on three sides by metal and on the fourth by a plate of rock crystal, through which the light passes. The filament may be fused if the electric current is not carefully regulated; the lamp has then, of course, to be replaced, which can be done with very little trouble. The greater part of the beak can be unscrewed, the spoilt lamp taken out and another substituted, the spare lamps being supplied by Leiter at a moderate cost. A point worth bearing in mind is that some lamps require a stronger current than others to produce a good white light, this depending upon the thickness of the filament; it is advisable therefore to select one's own lamps, taking those which give the best light with a moderate current, and if, during an examination, a lamp has to be changed it should be carefully tested as to its brilliance and the strength of current required before it is introduced into the bladder. The window, situate at the junction of beak and shaft, is a quarter of an inch across and

is closed with a prism which, aided by a system of lenses, conveys the rays of light from the object along the central tube

of the shaft to the observer's eye. The shaft is about seven inches long, and in size 22 French gauge or about No. 12 English, its centre is occupied by a sliding tube already mentioned through which observations are made, the rest of the shaft carries the conducting wires. The ocular end bears the two screws by which the instrument is connected with the wires from the battery, and it is furnished with a small key which, turning from right to left, switches on the light. Here the outer end of the sliding tube can be seen and the tube removed for cleaning, if necessary. A small knob on the rim serves to indicate the direction in which the beak points, so that the observer, by looking at it, may inform himself as to the locality of anything under observation in the bladder. It is important to bear in mind that if the window is at too great a distance from the object the latter will appear to be less than it really is, if at too short a distance the object will be enlarged; what may be termed "the normal" distance, at which no alteration takes place in size, is about half to three quarters of an inch, and at this distance the field in view is slightly larger than the area of a shilling.

I may conveniently mention here that with the inferior light the object is seen erect and unaltered, whilst with the superior light the object, like that seen with the laryngoscope is inverted in the antero-posterior direction, but not in the lateral. This effect is well demonstrated on the dummy bladder. On looking at the vertex of this, it will be seen as if it were the inferior surface, an appearance which when first observed in the human bladder is rather puzzling; again, on the floor of the dummy are placed three objects, a pin, a pebble and a piece of tubing, in the order mentioned from before backwards; if the superior light be rotated so as to bring these objects in view they will appear to be placed in the reverse order, that is, the tube in front and the pin posterior.

Now as to the battery, the one I show here is made by Schall, of London, and is a four cell with zinc carbon elements immersed in a solution of bichromate of potash to which some

strong sulphuric acid has been added. The advantages of this battery are that all or only some of the cells may be used, these may be immersed to any depth by means of the rack, the very easily adjusted Rheostat puts the amount of light under perfect control, and the battery may also be used as a cautery. The fluid, with moderate use, needs renewing every two to three weeks, and if at any time the current is found too feeble it may be increased by adding an ounce of commercial sulphuric acid to each cell. It is, however, necessary to say that this, like all similar batteries, requires very careful management, and that it occasionally gets out of order.



Method of using Cystoscope, and precautions to be taken.—

The urethra should be capable of taking a number 12 English catheter. If the patient be a male, less than about thirteen years old, the size of the urethra will be a complete bar to the use of these instruments, though no doubt a smaller one could be produced by the maker if necessary. It will be found in practice that a narrow meatus or stricture of the urethra are the two obstacles to be dealt with, the former by slitting downwards and

the latter by dilatation or any other method deemed advisable. The urethra having been found sufficiently large it has to be decided whether an anæsthetic should be administered or not. I have examined patients under general anæsthesia, under local anæsthesia, by means of cocaine, and without anything to deaden the sensibility. The examiner must be guided to a great extent by the general sensitiveness of his patient. General anæsthesia makes it easier for the patient and for the surgeon, but if this is not desired, then the bladder should be emptied, about an ounce of water injected through an india-rubber catheter, and a drachm of 10 per cent. solution of cocaine; as the catheter is withdrawn inject another half-drachm of cocaine so that it may be distributed over the urethra, especially the deep part—this urethral injection is most important—in ten minutes the examination may be proceeded with.

Local or general anæsthesia having been induced, about six ounces of boracic acid solution should be injected through the india-rubber catheter. It may be that the urine is clear enough to form a good medium, but it may not be so, and in any case I prefer to know that there is a definite quantity of fluid in the bladder. If the urine is found to be bloody, or turbid from pus, then the cavity should be very gently washed out with a warm solution of boracic acid, but the less the interior of the bladder is disturbed the better. At the same time it must be remembered that a clear medium is absolutely essential; enough blood to produce a mere tinting, or a little milkiness from pus, greatly interferes with the view and produces a blurred and indistinct picture.

Before passing the instrument into the bladder see that the light is in good order; immerse the cells two minutes previously (all four will be needed), turn on the switch and push up the Rheostat, carefully testing the light and slowly increasing the current until a good white light such as is shewn here is obtained. If the lamp is changed before the examination is completed, or if the other instrument is to be used, again test the light before passing the instrument into the bladder. Take the precaution

to see whether the sliding tube in the centre of the shaft is pressed well home ; if it projects so that its inner end is removed from the window the image is proportionately smaller and imperfectly lighted.

Irregular enlargement of the Prostate may cause difficulty in introducing the cystoscope, but it is not likely to prove such an obstacle as a stricture. In a case of malignant disease of the Prostate, where the enlargement was great and very irregular I was unable to illuminate the bladder owing, I believe, to the instrument not having sufficient length in the shaft to pass freely into the cavity. The cystoscope is introduced as an ordinary sound would be and with as much ease, glycerine being used as a lubricant rather than oil, as the latter blurs the window and the plate over the lamp.

Examination of the healthy bladder.—Assuming that the inferior light has been first employed, and that its beak is free in the bladder cavity, switch on the light, and not until then. The ignition of the light when the beak is still in contact with the urethral walls might do much harm, but with ordinary care this is not likely to happen. As the light is switched on the observer places his eye to the ocular end and notices a yellowish glare but probably, at first, no definite structure. The instrument should then be gently withdrawn until a prominent bright red mass is seen which will, at the first observation, suggest to the examiner that he has found a tumour. In reality, it is the inner opening of the Urethra, and it can be traced as a complete circle by rotating the cystoscope on its long axis so as to follow the urethral ring. This bright red circle, with its rounded, rather swollen looking edges is in marked contrast to the appearance shewn by the rest of the healthy bladder ; the red colour is due to the rays of light passing through the vascular marginal tissue of the urethral opening. The ring is not perfectly regular, being slightly indented in places. Starting now from this orifice the rest of the bladder presents a yellow, or yellowish white colour, varying to some extent with the brilliance of the illumination. The trigone is smooth ; behind the urethral

orifices the floor shews various rugæ and foldings, depending upon the amount of distention of the bladder. A few vessels, without any definite arrangement can be seen meandering over the surface of the mucous membrane, and rather suggest to one's mind the arrangement in the fundus of the eye. Before ending the examination of the floor the openings of the Ureters should be carefully searched for, and whether they are found or not depends upon the extent to which the bladder is distended; they may be easily seen, or only after minute search, or not at all until a further quantity of fluid is injected, so as to unfold the creasings of mucous membrane hiding these orifices. They ~~are~~ placed on slight eminences and have somewhat prominent edges, and may be of a rather darker tint than the surrounding surface. If watched for a few seconds, especially if pus is coming down from the kidney, a little eddy may be seen as the drop of urine mingles with the fluid in the bladder, but I have not seen blood descending as in a case graphically described by Hurry Fenwick.

Substituting now the superior light for that in use, the anterior and upper surface may be examined, commencing at the urethral orifice and remembering that this surface will be seen inverted. In front slight longitudinal foldings are noticed, passing further back into a more irregular but more pronounced fascicular arrangement. Very likely one or two air bubbles will have been introduced with the fluid injected, if so they will be seen close to the upper surface as bright shimmering bodies reflecting the image of the lamp and dancing about with movements of the patient's body. If this superior light be rotated on its long axis the inferior surface and all the urethral orifice can easily be examined.

Two things should be constantly kept in mind; one is that the knob on the rim of the ocular end points always to the position occupied by the beak; the other is, that it is possible to damage the walls of the bladder by keeping the light in contact with them. Some surgeons not very familiar with the use of the instrument have implied that

momentary contact of the end of the beak with the mucous membrane produces pain and structural damage. This is not so, as will be presently shewn. If the light is withheld from contact with the bladder walls the surface of it is kept cool by the surrounding fluid, and the lamp may be burnt for several consecutive minutes without appreciably raising the temperature of the fluid. Burn the lamp for half a minute in the air and the beak will become so hot that it sings the finger. Again, immerse the lamp in a cup of cold water and turn on the current so as to give a good white light. When this has burnt a little time, place the finger in the water and hold it in contact with the beak for half a minute, it will then begin to feel hot, and in another half minute uncomfortably so, the water all round remaining scarcely altered in temperature. Momentary contact with the walls of the bladder can therefore do no harm ; if it is prolonged beyond twenty or thirty seconds the mucous membrane will be damaged. When the examination is finished switch off the light, wait half a minute and withdraw the instrument, when it will be so cool that it can be grasped with the fingers without any disagreeable sensations of warmth.

I have described the details of examination at some length because upon attention to these depends the usefulness of the cystoscope, and I now propose to mention briefly some of the cases examined by myself.

Case 1.—Male, aged 65, admitted to the General Hospital May 19th, 1888. History of nearly three years' difficult micturition with increased frequency, for the last few months precipitant micturition and severe pain ; the urine was ammoniacal, contained pus, mucus, phosphates and a few granular casts, but no blood. The patient stated that he had never seen blood in his urine. Examination with the sound did not detect stone ; per rectum some doubtful thickening at the base of the bladder, but it was very difficult to reach. The cystoscope detected growth on the trigone extending somewhat to the left side of the bladder and consisting of several small nodules of a deep red colour attached by broad bases and with smooth, nonpapillary

surfaces. Behind the nodules the mucous membrane was noticed to be pale, slightly papillary and thickened, and there was a small ulcer more posteriorly. The presence of a long continued cystitis, the absence of hæmaturia and the appearance of the growth all pointed to its being of a malignant character, so no attempt was made to remove it. The patient died about a month later of ascending nephritis, and I shewed at the last meeting the bladder with the nodules of growth recognised; microscopic examination shewed the tumour to be an alveolar carcinoma infecting lymphatic glands.

Case 2.—Female, aged 68, admitted to the General Hospital August 14th, 1888. For more than twenty years had suffered from painful and frequent micturition, for the last four years from partial incontinence also, and from hæmaturia for about the same length of time. The urine was alkaline and contained blood, pus, and triple phosphates. Some trouble was found in obtaining a clear medium to examine in, and the bladder would only retain four ounces of fluid. The cystoscope shewed a patch on the posterior part of the trigone and its neighbourhood, covered with delicate villous processes varying from a quarter to half an inch in length, of a bright red colour; there appeared to be slight ulceration between them. On the right side of the neck of the bladder was a similar patch, the processes being paler in colour. Another patch was found on the anterior wall. The diagnosis was papilloma from chronic cystitis. The urethra was dilated and the finger introduced, it detected in the places alluded to slight roughness and a few hard shotty points. The patches were thoroughly scraped, with but little benefit however. Dr. Crooke reported that the material scraped away showed only papillomatous structure.

Case 3.—Mr. —, seen in consultation with Mr. Law Webb, of Ironbridge, who verified the appearances described, July 16, 1888—Patient, aged 60, had suffered from hæmaturia for about eighteen months, the blood coming generally at the end of micturition and amounting to a drachm or more. At times a little pain in the urethra and above pubes, but no increased frequency.

No pus or fragments of growth were found in the urine. The Cystoscope shewed five nodules of growth arranged in a half circle, stretching from close to the floor on the right side almost up to the vertex of the bladder, and situated about an inch from the internal orifice of the urethra. The nodules were slightly narrowed at their bases, but were not perfectly discontinuous; all of them were of a bright red colour, and two were slightly papillary on the surface. I came to the conclusion that the tumour was probably a malignant one, and seeing that, though limited in extent, it was not in a position whence it could be freely removed, I advised against operation.

I have examined two other cases of tumour; one I believe to be a papilloma, of which I hope to publish details later; the other a probably malignant growth in a patient under the care of my friend Dr. Ross, of Tenbury. This last case is the only one in which I have absolutely failed to make out the growth, but the hæmorrhage was very profuse and I had only the one opportunity of examining.

Case 4.—*Cystitis; localisation of lesion with Cystoscope when the finger introduced by the boutonnière was unable to reach the disease*—A male, aged 27, under the care of Mr. Pemberton in the General Hospital, January, 1888. The patient had suffered from painful and frequent micturition for six months; the urine contained pus, blood, and mucus, but was always *acid*. The cystoscope shewed on the posterior part of the floor, extending somewhat on to the posterior wall, a patch with a shaggy surface such as might be produced by the processes of a fine Turkey sponge under water, and to this particles of pus and blood clung and were occasionally washed off. The boutonnière was performed for drainage but the finger introduced only just entered the bladder and could not reach far enough to detect the disease. I mention this case as illustrating the aid the cystoscope gave, first in determining in the presence of acid urine that the bladder and not the kidney was the source of the pus; and secondly by recognising the disease when the finger introduced through the opening in the urethra failed to do so.

The appearances observed in this case are similar to those seen in two or three others. What the exact pathological condition is, whether it is tubercular, and whether the condition is amenable to operation, I am at present unable to say.

Case 5.—*Doubtful early Tuberculosis of the Bladder.*—A male, aged 30, under the care of Mr. Bartleet in the General Hospital, June, 1888. Three years before admission patient had urethritis. This entirely subsided, but for some months he had suffered from frequent and precipitate micturition. The urine was acid and contained no abnormal constituent, and the ordinary methods of examination failed to account for the symptoms. The cystoscope shewed the mucous membrane on the floor to be rather puffy and oedematous. On the posterior wall were several small nodules, each about the size of a pin's head, and of a distinctly yellow colour, running up to each of these nodules were a number of little vessels arranged in a radiate manner, none of them appearing to enter the nodules. The conditions seen suggested that the disease might be early tuberculosis, but up to the present time the symptoms have remained unaltered.

Case 6.—Female, under the care of Mr. Haslam in the General Hospital, July, 1888. The patient had suffered from frequent and painful micturition, and from hæmaturia for twelve months. The urine was alkaline and contained blood, pus, mucus and phosphates. Examination with the cystoscope was difficult, as only four ounces of fluid could be kept in the bladder, and blood was constantly oozing. On the floor, behind the trigone, extending on to the left lateral wall, there was a patch of rugged ulceration bearing papillary processes covered with pus and scraps of blood clot. Occupying almost the whole of the anterior wall was a collection of nodules covered with scales of a gray brown colour. The vertex was healthy. The diagnosis was "probably tuberculosis of the bladder," and the finger passed down the urethra when the interior of the bladder was scraped verified most of the details described. Mr. Haslam tells me that the patient was relieved by the operation.

Case 7.—The last I propose to mention shews the value of cystoscopy in determining the absence of tumour when the symptoms point strongly to its presence. A gentleman, aged 21, commenced some five years ago to suffer from hæmaturia and frequent micturition. He was seen by an eminent surgeon who diagnosed "tumour on the right side of the bladder," but declared it to be beyond relief by operation. The patient, who was at that time completing his education, intending to enter the church, has since been leading a life of great discomfort and invalidism. I saw him about two months ago and found that he was micturating with undue frequency and that the urine contained a considerable quantity of blood and a little pus. The cystoscope shewed the absence of tumour. On the floor, extending to the sides of the bladder, were slightly raised patches with small villous projections and in places superficial ulceration; all these parts were more or less bloodstained and shreds of clot could be seen floating on their surfaces. On March 12th I drained the bladder by the perinæum, when the finger recognised much the conditions described, though the mischief was more on the posterior wall than I expected to find it. The diseased patches were scraped with a scoop and there was but little oozing.

Now to summarise the advantages to be gained by the use of the cystoscope. Like most other instruments of precision it requires some pains to use it effectually, and it is only required in a limited number of cases. It is of the greatest utility in diagnosing the presence of tumours of the bladder. It will not only determine the presence of a tumour but will in the majority of cases tell the examiner whether the growth be innocent or malignant and if it be removable, and the best route by which it can be attacked. No doubt vesical tumours have been and can be diagnosed without the cystoscope, but rarely with certainty and only after watching and delay, and generally with only a guess at their nature. I believe that the cystoscope will enable papilloma of the bladder to be treated much more successfully in the future than in the past. The history of many of these cases has been one of recurring hæmaturia for years, and

the want of certainty in diagnosis has led to long periods of delay and operation has only been resorted to when the patient's strength has been wasted by bleeding, when the growth has attained an extensive size, and when secondary renal changes have been set up. When a patient suffers from hæmaturia unassociated with other symptoms and for which no explanation is found, the bladder should be examined with the cystoscope. Papilloma, or some other tumour, will very likely be found to account for the bleeding, if not, the orifices of the ureters should be carefully watched to see if blood is coming from either of them; if it be, then malignant growth of the kidney is strongly indicated. The importance of the latter observation lies in the fact that malignant tumours of the kidney are only amenable to treatment in their early days, when the growth is not easily appreciated by palpation through the loin or through the abdomen. In certain cases of pyuria, when the source of the pus is doubtful, that is whether it be from the bladder or the kidney, the cystoscope will determine, and may also indicate which kidney is at fault.

Encysted stone in the bladder proves, from time to time, very difficult of diagnosis; its discovery with the cystoscope should be fairly easy in nearly all cases.

So, again, with foreign bodies, introduced either through the urethra or finding their way from other parts. The recognition of the position of the body would enable it, in some cases, to be removed with a small lithotrite instead of by cystotomy, as, for instance, when an india-rubber catheter slips into the bladder. Nitze himself had a curious case in which the silk ligature used to secure the pedicle after ovariectomy ulcerated into the bladder and became the starting-point of cystitis and secondary stone; the ligature was eventually discovered by the cystoscope to be sticking in the bladder wall.

It is, perhaps, unnecessary to say that the diagnosis of ordinary cases of calculus in the bladder remains unaffected by the cystoscope, as simpler and efficient means for the purpose are at our disposal.

As might be anticipated, improvements are already suggested; Whitehead, of Manchester,* has had an instrument made nearly twice the ordinary calibre, and consequently giving a much larger field of view and a more brilliant light, but it has the drawback of necessitating a membranous urethrotomy for its introduction.

Mr. Berkeley Hill † has added a fine double current catheter to Nitze's instrument for the purpose of maintaining a constant washing out of the bladder when the medium becomes obscured from blood or pus.

SYPHILIS OF THE NERVOUS SYSTEM.

BY C. W. SUCKLING. M.D. (LOND.), M.R.C.P..

PHYSICIAN TO THE QUEEN'S HOSPITAL.

PROFESSOR OF MATERIA MEDICA AT THE QUEEN'S COLLEGE, ETC.

(Continued from p. 224.)

Case 5.—*Epileptiform Attacks.*

A married lady, aged 24, was brought to me by her family doctor with a history of epileptic attacks. Her father died at the age of 35 and he had suffered from syphilis, the patient having been born after he acquired the disease. All the children born after had some deformity: talipes, contracted fingers, &c.: and a niece of the patient's suddenly lost the use of her thumb, and her sister had lost children from convulsions. The patient's husband denied having ever had syphilis, and showed no symptoms. The patient looked perfectly well, and had no trace of any syphilitic cachexia. Eight years ago she had a contracted tendon Achilles, causing talipes, which was divided. After the birth of a healthy child the patient had attacks of vertigo: during her second pregnancy she suffered from superficial ulcerations of the fingers, with the formation of blebs (probably pemphigus) which yielded to iodide of potassium. Twelve

* *Brit. Med. J.*, April 7, 1888.

† *Lancet*, January 26, 1889.

months before she came to me she had commenced to have epileptiform attacks which were not of the Jacksonian type, there being no aura and no local commencement and insensibility being always present. She at one time lost all her nails, and had also suffered from headaches which were not worse at night and never prevented sleep. A fortnight before she came to me she was found in a comatose condition, from which, however, she quickly recovered. Three days previous to her visit to me she found that she could not move her right arm, and it was numb. This paresis and numbness came on quickly and only lasted about half an hour. She had had two attacks of this character.

I expressed a very decided opinion that all her symptoms were due to syphilis, in spite of the fact that this had been negatived by perhaps the most eminent neurologist of the day. She was ordered a mixture of iodide of potassium and mercury, the dose to be pushed until all the symptoms were relieved, and to be continued for a very long time. It is now sixteen months since I saw this lady. She is still taking the mixture, and has never had a fit or any bad symptom since. I heard a few days ago from her medical attendant that she was in very good health, and still taking her medicine. The case presents the following points of great interest :—

- (1) The syphilis was inherited, not acquired.
- (2) There was no cachexia or muddy aspect, no traces about the body, and no change in the fundus oculi.
- (3) The headache was slight and not nocturnal in character.
- (4) The disappearance of the symptoms upon the administration of anti-syphilitic remedies. There is no doubt that permanent paralysis would have occurred but for the prompt treatment.

The contracted tendon Achilles was I believe due to gummatous mischief. The outbreaks of symptoms during pregnancy and, what might be expected, anything lowering the general health in those who have had syphilis may suffice to evoke active mischief.

Case 6.—*Headache, Ataxia, and Aphasia.*

A gentleman aged 40 had contracted a chancre nine years previously but had had no secondaries. He came to me complaining of a want of control over his legs, and there was a considerable degree of ataxia in them, though the knee jerk was normal on both sides. A month before he came to me he had a sudden, though fortunately, transitory attack of motor aphasia, and had often suffered from headaches, especially at night. There were no changes in either fundus. A mixture containing iodide of potassium and mercury at once relieved him, and he has continued the medicine since (now twelve months) and is quite well.

Case 7.—*Hemiplegia of great severity, with marked increase of the deep reflexes.*

A married lady, aged 29, was brought to me suffering from severe hemiplegia on the right side. The hemiplegia came on suddenly while she was out walking six months previously. It developed somewhat gradually, for she merely dropped her parasol, and walked home not losing consciousness. She suffered from motor aphasia for six weeks. The paralysis became extreme in a few hours, and has only slightly improved since. She had had no headache previously, and no miscarriages. There was no albuminuria, no heart disease; and suspecting syphilis, I examined the fundus oculi, and found well-marked choroiditis disseminata. No history of syphilis could be obtained from the husband or in the patient's family. She was not at all benefited by anti-syphilitic treatment, and remains severely paralysed. The case is interesting in that it represents the severe form of syphilitic hemiplegia, *i.e.*, due to thrombosis of the middle cerebral artery and consequent softening of the brain. There was an absence of headache, and no muddy countenance nor any sign of syphilis except choroiditis.

Case 8.—*Jacksonian Epilepsy on the right side, followed by paresis, with aphasia, and nocturnal headaches. Syphilis contracted six years previously.*

A gentleman, aged 40, applied to me with a history of the

above attacks. I found paresis of the right side with ankle clonus. There were no changes in the fundus oculi, and no external signs of syphilis. A mixture containing iodide of potassium and mercury was prescribed. I have not seen the patient since so cannot state the result. The occurrence of nocturnal headache with this form of syphilitic hemiplegia is what we should expect—the surface of the brain and its membranes being affected.

Case 9.—*Chancre two years previously, paralysis of third nerve, perforating ulcers, and other signs of loco-motor ataxia.*

A man, aged 34, who had contracted syphilis two years previously, came complaining of pains in the legs, worse at night, dropping of the left eyelid, diplopia, and staggering. There was no headache. The knee jerk was lost on the left side, diminished on the right, and there was considerable ataxia. A perforating ulcer was present on the under surface of each great toe. So far, in this case, anti-syphilitic remedies have not effected any improvement.

Case 10.—*Hemiplegia and Contracture, Epilepsy and Idiocy from inherited Syphilis.*

A child aged 5 was sent to me recently with the following history:—When 18 months old she had a severe fit, and ever since has been subject to them. A few months ago the right side was found to be paralysed, and has remained so. There was severe contracture of the right extremities and constant laryngeal stridor, the child being also speechless and idiotic. The mother told me that she had had two miscarriages, that one child only lived a month and another ten months.

I think it is highly probable that the condition was due to syphilis, but cannot speak as to the results of treatment, not having seen the patient since, but I considered the case a hopeless one.

Case 11.—*Chancre two years previously. Spinal symptoms.*

A gentleman 29 years of age applied to me with pain in the back and numbness of the left leg. I found that he suffered from nocturnal headaches, and that the left testicle was anæ-

thetic. Iodide of potassium and mercury were ordered, and I heard a few months later that he was quite well.

There was no cachexia in this case.

Case 12.—*Chancre twenty years previously, no secondaries; nocturnal headache; attacks of aphemic aphasia, latterly followed by paresis of the right arm and leg.*

A gentleman aged 41 came to me, from whom I elicited the above history. I found that the wife, who had been previously married and who had several healthy children and no miscarriages by her first husband, since marrying the patient had had two miscarriages only. The patient was prematurely grey. I found that the right side was a little weak, and that he complained of pain on the left side of the head, worse at night. The attacks of aphasia, of which he had had several, were, from his description, aphemic in nature and there was no agraphia. During the attacks the tongue was deflected to the left when protruded. This patient was anæmic and perhaps a little cachectic at the time of his first visit.

After six weeks' treatment all the headache and paresis had gone and his appearance was much improved. No further attacks have hitherto occurred.

All the foregoing cases have been selected from my private case book. In my practice at the Queen's and the Children's Hospital and the Infirmary I have of course seen many cases of syphilis of the nervous system. In my book on the Diagnosis of Diseases of the Nervous System, page 233, is recorded the case of a man who, in spite of proper treatment for the primary sore, had well-marked iritis and other secondary symptoms, and within eleven months suffered from typical hemilateral myelitis. He recovered under the influence of large doses of iodide of potassium combined with mercury.

On page 102 is recorded a case of Right Hemiplegia with complete paralysis on the right side and paralysis of the third nerve on the left. The case proved fatal and the results of the autopsy are recorded. On page 94 I mention a case in which there was frontal headache followed by coma and paralysis.

Tenderness on percussion existed in one spot over the frontal bone, and after death a gumma was found on the surface of the brain immediately beneath the tender spot.

In the *Birmingham Medical Review* for March last a case of paralysis of the right fifth, sixth, and third nerves, which I shewed before the Midland Medical Society, is reported at length. The patient is still under treatment and is improving. This man had the muddy countenance of syphilis well marked.

Besides the above I have had many cases of syphilitic headache, hemiplegia, and aphasia, of which it is scarcely necessary to give reports. In one of them symptoms of cerebellar tumour were present, namely, occipital headache, staggering gait, vomiting, and double optic neuritis, but they all rapidly subsided under treatment.

Now in contrasting my private with my hospital cases I at once am struck with the almost universal absence of the earthy aspect and cachexia of syphilis in the private, and with their great prevalence in the hospital patients. The earthy appearance of the countenance is far more common in my experience in infantile syphilis than in that of adults. Again, scars are less frequent in the upper classes, and the disease is, I think, more tractable in them. I cannot say from my own experience whether cerebral syphilis is more common among the brain workers than among the labouring population; certainly my opinion is that in the upper classes the lesions are not so gross and severe, that there is far less cachexia, and that the disease yields more readily to treatment.

Treatment.

The two remedies for syphilis of the nervous system are iodide of potassium and mercury, and they must be administered promptly and in sufficient doses or irreparable damage may be effected by the syphilitic process. Iodide of potassium must not alone be trusted to. I have frequently found cases stationary under the influence of the iodide quickly recover when mercury has been given as well. Though undoubtedly iodide of potassium alone will often cause an entire disappearance of symptoms

yet it is safer to give both drugs. The patient should be brought under the influence of the iodide immediately the diagnosis is made. I usually begin with five grains three times a day, increasing this to ten and, in a day or two, to twenty, thirty or more grains according to its effects. Regard must be had to the effects of the drug upon the patient; some patients are cured with ten grain doses three times a day, others will require four or five drachms of the iodide daily, the iodide therefore should be pushed to the dose required to control the symptoms, and the patient must be kept more or less under the influence of the drug for a year or two after the disappearance of symptoms if recurrence is to be avoided.

It is important to remember that large doses of the iodide are occasionally better borne than small doses. If the patient shew great intolerance of iodide of potassium a single large dose of the iodide in a tumblerful of water every day might be tried, and should the patient be quite unable to take the drug (a very rare occurrence in syphilis of the nervous system) other iodides, *e. g.*, sodium iodide may be tried. The probability of recurrence of symptoms, after discontinuance of the iodide mixture, is diminished by the administration of mercury, which may be given by the mouth, by inunction or hypodermically. Inunction is dirty and annoying to the patient, though highly efficacious. In severe cases I would always recommend inunction of at least a drachm of blue ointment or of shoemakers' mercurous oleate ointment daily, care being taken to inspect the mouth frequently and to wash the mouth and gums daily to prevent salivation. In all ordinary cases the internal administration of mercury suffices, and I find that the solution of the perchloride of the Pharmacopœia, in drachm doses, added to the iodide mixture (a biniodide of mercury being formed and held in solution) answers perfectly well. Mercury may also be given hypodermically with great effect, but this method is impracticable for people walking about and not under daily medical superintendence. I do not believe in the system of giving very large doses of iodide of potassium for

a few weeks and then discontinuing it. I have at the present time patients who have continued their iodide and mercury mixture for many months and have enjoyed excellent health while taking it. I have seen many cases of syphilis of the nervous system, apparently completely cured, relapse after a longer or shorter interval, to be again relieved by the appropriate treatment; and I think the only safe plan of treatment is to continue the administration of the iodide and mercury for two or three years, giving a dose which does not injuriously affect the patient, and varying it when necessary. Great care should be taken of the general health of those who have contracted syphilis, for it is a well-known fact that any lowering of the health may at once excite an outbreak of tertiary syphilis though the primary sore may have been contracted many years previously. Even a vigorous treatment of the affection at the commencement does not in all cases prevent the occurrence of affections of the nervous system later on.

THE SURGICAL ASPECT OF RICKETS.*

BY EDWARD L. FREER,

HON. SURGEON ROYAL ORTHOPÆDIC HOSPITAL, BIRMINGHAM.

THE time at the disposal of this meeting necessitates my confining my remarks, as the title implies, exclusively to the Surgical Aspect of Rickets, without entering into its physiological and medical bearings.

The surgical affections associated with rickets form a large proportion of the cases that engage the attention of orthopædic surgeons. Tibial curves are perhaps the most frequent deformities that we have to deal with. Every surgeon knows the cases of children with square-shaped heads, unclosed fontanelles, big bellies, enlarged epiphyses, barrel-shaped chests with beaded

* A paper read at the Pathological and Clinical Section of the Birmingham and Midland Counties Branch of the British Medical Association, February 22nd, 1889.

ribs, and more or less curved legs. The fond mother anxious to shew how well her child can walk is constantly encouraging him to get on his feet; and the fact that many of these patients by good fortune right themselves often induces the medical adviser to say that the child will "grow out of it." This is by no means always the case, and the number of children applying at the out-patient departments of our hospitals is a standing proof of the error of trusting too implicitly to providence for a cure.

For slight cases of lateral tibial curves under three years of age I apply splints to the inner side, reaching from about two inches below the perinæum to two or three inches below the inner malleolus, with straps at top and bottom, and a third at the greatest convexity of the curve. These splints have the double advantage of acting upon the curve and of keeping the child off his feet. At first they should be worn continuously, but removed night and morning for ablution with sea-salt and massage to prevent wasting of the muscles. After a few months, when the curves are improving, the splints may be left off at night. For children over three years of age and those with anterior curves, instruments should be tried for twelve months (in the latter case with a back bar from knee to ankle and a double strap over the centre of the curve) when, if these appliances are not successful, osteotomy should be resorted to as a *dernier ressort*. Genua valga require in young children somewhat similar splints with a piece of webbing passing round the back from one splint to the other, a broad centre strap drawing the knee to the splint; here the treatment may be assisted by passive manipulations night and morning with a pad between the extended knees. If instruments are required in these cases they should be fixed at the knees, or in severe cases have a ratchet joint acting laterally, the instrument being applied in the deformed position, and gradually straightened from time to time with a key. Of the operation of osteotomy I am decidedly in favour of Macewen's, as being far safer and more rational than Ogston's, and my results from this operation have

been so successful that I should be unwilling to adopt any other. I prefer, however, to Macewen's half-box splint, one devised by my colleague Mr. William Thomas, which is very comfortable and keeps the limb in excellent position. For anterior and some very bad lateral curves it is necessary to remove a wedge-shaped piece of bone, and in the former a back splint is required to keep the broken ends from riding up. I may add that I now invariably use the chisel, also suggested by my friend Mr. Thomas, which I call the "putty-knife" from its close resemblance to that instrument, there is far less chance of splintering than with Macewen's in consequence of the blade being thinner and broader. I have never myself had a case in which suppuration has occurred, and in the one or two cases I have seen they have necessitated more frequent dressings, but all have done well. I must, however, enter my protest against a practice which has been adopted lately by some surgeons, of putting these cases in plaster and treating them as out-patients; we must remember that we have to do with simple deformities, and a procedure which might possibly be permissible in cases of accident owing to undue strain on bed accommodation or other causes, is I consider absolutely unjustifiable in these cases, where a little delay is of no practical importance, and were a death to occur to one of my patients so treated (a contingency not at all beyond the bounds of probability) I should feel myself morally guilty of manslaughter. I would also insist on the necessity after osteotomy of children at all events (and those in which the bones were found to be soft at the time of operation), wearing some retentive apparatus for at least twelve months or until the rachitic condition has been replaced by the stage of eburnation, for I have met with several cases at the Orthopædic Hospital where, after operation elsewhere, the limbs were quickly retroceding to the abnormal state. Although many surgeons now perform these operations without antiseptics, I should be very unwilling to abandon such an important adjunct to the safety of modern surgery.

Pes valgus, or flat foot, is a very frequent result of rickets,

especially when knock-knee exists and the centre of gravity is consequently thrown on to the inner side of the foot. A great proportion of children, when they first begin to walk, have flat feet, but the normal arches in these cases tend to develop as the muscles are strengthened by exercise. Light manipulations are useful in all such cases; when more deformity exists I apply a light poroplastic splint to the foot while held in an adducted position; this the mother removes night and morning for manipulations and massage. In older children it may be necessary to apply a broad well-fitting boot with a sole thickened on the inner side (Thomas' heel) together with manipulations and exercises to be later described. When more deformity exists and but a partial restoration of the arch is possible without much force, it is necessary to have some form of pad in the boot. I prefer superimposed layers of felt to cork or india-rubber as not so liable to cause corny thickening of the sole; or Holland's patent sole, which is light and effective but rather expensive for hospital cases. The exercises here also must be systematically carried out. When the tarsal bones have become more or less fixed in the deformed position, the scaphoid being in some cases so much subluxated that the tubercle is in contact with the ground in walking and there is actual contraction of peroneal tendons and ligaments, the only satisfactory treatment is by *redressement forcé*, i.e., forcible manipulation under anaesthetics, sometimes also tenotomy of contracted tendons. This, however, is not nearly so frequently required as was formerly imagined. The apparent contraction is usually spasmodic, and in the majority of cases entirely disappears under the anaesthetic. The treatment, as laid down for milder cases, is even more necessary here, but for the first fortnight, at least, after the operation the feet must be kept in a state of extreme adduction by a padded malleable splint applied to the outer side, and a pad placed in each arch. The *redressement* may have to be done several times, at intervals, in very severe cases. The exercises I advocate are those suggested by Roth and described in Kinesi-therapeutic language as "(A) sitting foot inward

circumduction forty times. (B.) Sitting foot adduction (G. R.) and abduction (P. R.) twenty times." Walking on the toes and, as the case improves, hopping on one foot are also useful exercises. I have had numbers of most severe cases under treatment, and have never once seen a case that required osteotomy as suggested by Ogston, except a congenital deformity in the little child of a friend of mine (non-rachitic) where there was an outward bend of the lower end of the tibia, which was rectified by osteotomy of the tibia and fibula.

One of the most important affections dependent on rickets is spinal curvature. The most frequent form is posterior curvature, which is very common in young children and often associated with pigeon breast. I recommend in these cases a malleable iron backsplint covered with thin sole leather and padded, having elastic corresponding to the ribs and laced in front, while to the upper part are attached elastic armlets to keep the shoulders back, and bands of swansdown, which can be replaced when soiled, attached below. When there is pigeon breast a small pad may be placed over the projecting sternum. The exercises called breathers (alternate deep inspiration and expiration) are most useful in these cases when the child is old enough to do them properly and systematically. Lordosis, or anterior curvature is very frequently of rachitic origin; properly selected exercises, together with massage of abdominal muscles, are necessary in these cases.

Rotary-lateral curvature or scoliosis when of rickety origin is, perhaps, the least amenable to treatment of all rotary-lateral curvatures. We all know that when osseous changes have taken place in a scoliotic spine, to that extent or nearly so, is the deformity incurable, and, while I hold that the majority of the rotary-lateral curvatures are due, at the outset, to bad positions and relaxed muscles, which it is quite possible to detect before osseous changes have commenced, and that if we could insist on the prophylactic treatment of all young children in schools and at home by proper positions and rational free exercises, the number of scoliotic patients would be enormously

reduced ; still I must acknowledge that in rachitic children the osseous deformity is the primary condition, and treatment can only be directed to preventing its increase, and these are almost the only cases in which a body splint in the form of a divided plaster cuirass is indicated. This, however, should be removed at once whenever the patient can be entirely at rest on a couch or in bed, and the same exercises prescribed as in ordinary cases of scoliosis, special prescriptions being arranged for each individual case, and when the bones are sufficiently hard and the muscular system developed the cuirass should be dispensed with entirely. The rib deformity is often much in excess of the rotary-lateral deviation, and therefore I insist especially on the exercises called "breathers" being carried out very systematically. I have reason to affirm, by experience, that the expansion of the lungs thus induced exercises the only improvement on the angular rib-deformity that it is possible to obtain. The other exercises I employ are too numerous to mention in this paper, several hundreds having been formulated from which it is necessary to prescribe those suitable to each individual case.

For further information I would refer you to Roth's Handbook, Von Ziemssen on Orthopædics, Schreiber on Massage, and other works. After each seance, which should never be of less duration than twenty minutes, massage of the back has a stimulating effect on the muscles, and also relieves the tired feeling that necessarily ensues. This treatment far from being irksome to the patients is a source of pleasure to them, and my patients almost without exception look forward to their daily course of exercise with delight.

I may mention that nearly all the cases of left dorsal curvature I have met with were of rachitic origin. I cannot leave the subject of curvature of the spine (and this after carefully noting their positively baneful influence for a period of nearly fifteen years) without cautioning all surgeons against the so-called "instrumental supports."

I have felt that my paper has been somewhat crude, but the subject is such a wide one that it was impossible to enter

into the theories of pathology, etc., unless I had devoted far more time than could have been allowed at this meeting, but I have attempted to prove to you my conviction that most of those unsightly deformities of rachitic origin that we see daily in our streets are amenable to treatment by substituting simple common sense principles and the judicious exercise of our art for a *laissez faire* system on the one hand, and the indiscriminate assistance of the instrument-maker on the other.

REPORTS OF CASES.

EXTENSIVE EPITHELIOMA OF LIP.

BY WILLIAM F. HASLAM, F.R.C.S.,
ASSISTANT SURGEON TO THE GENERAL HOSPITAL, BIRMINGHAM.

J. C., aged 54, admitted into the General Hospital Sept. 29th, 1886.

Previous History.—He cut his lower lip four years ago, and says that ever since that time there has been a “lump” at the seat of injury. Four months ago this began to increase in size and to ulcerate.

On Admission.—The whole of the lower lip was occupied by a foul epitheliomatous growth reaching down to the junction of the lip with the jaw, but not involving the latter. Several enlarged lymphatic glands were felt below the jaw.

October 1st. A transverse incision was made below the jaw and some enlarged glands removed. The growth was then removed by an incision passing from one angle of the mouth to the other, and reaching almost to the point of the symphysis. This left a bar of tissue between the two incisions about an inch and a quarter in width at its centre and increasing in width on either side. By dissecting this up from its subcutaneous attachments for about two-thirds of its length, we were able to hoist

it over the prominence of the chin bringing it up so as to form a very good substitute for the lip that had been removed. It was secured in its new position by sutures, and the lower incision, now of course wide and gaping, was drawn together. The after treatment consisted in a careful attention to those means likely to prevent decomposition of the discharges, and by the free use of iodoform and frequent washings of the mouth this was considerably limited. The new lip fixed itself firmly to the front of the maxilla, from which the mucous membrane had been removed; the lower wound healed, and the patient was discharged on November 6th.

About six weeks after this he returned with a suspicious looking granulation at the upper part of his lip on the right side; this was removed, and he left the hospital in three weeks. He was cautioned that if any more lumps appeared he was at once to return for examination, and the importance of an early removal of a recurrent growth was pointed out. In the following June, however, a recurrence did take place, but as he was in full work at the time he paid no attention to the advice he had been given, and did not show himself until the beginning of July. By this time there was a characteristic patch of ulceration and induration, almost the size of a two shilling piece, on the right side of the lip, extending into the angle of the mouth, and just fixed to the subjacent bone. For the satisfactory removal of this an operation of some magnitude was evidently necessary, indeed it was a question whether it would not be advisable to remove a portion of the jaw; but this I was very reluctant to do.

On July 9th, 1887, the growth was freely excised by an incision starting on the left of the middle line, extending to the lower border of the jaw, along this to a point below the angle of the mouth, curving upwards and outwards from this and ending in the outer part of the upper lip. An ordinary chisel was then taken and the surface of the bone to which the growth was attached was freely cut away. A large open wound was necessarily the result of this operation, and unfortunately, owing to the previous operation, there was nothing in the neighbour-

hood that could be utilised for closing it. The raw surfaces in the position of what was to be the angle of the mouth were brought together with hare-lip pins, and the rest left to granulate up. In six months time he left the hospital with the wound completely healed; the tissues of the cheek had come together so as to make a well-defined limit to his mouth; the bone had thrown out granulation tissue, and this had consolidated into a dense and smooth fibrous mass occupying the right half of what would have been his lower lip. There has never been any sign of recurrence since that time; he has been in perfect health, and the deformity in the lip is much diminished by a free growth of hair from the neighbouring skin. Up to quite recently he has had to take fluids through a tube, but now he can drink easily out of a cup.

Remarks.—In dealing with epithelioma, when situated in an accessible position, free removal with the knife offers the best chances of success; and perhaps in no situation is it more effectually removed than from the lower lip. But when it has been allowed to progress for a length of time, and there is evident glandular enlargement, the prognosis must be more guarded. It is difficult to be sure that all the diseased tissue has been removed; it is no uncommon thing to find that after a liberal excision of a growth, a local recurrence takes place. In this case there was good reason to believe, from what was seen and felt, that all was removed; possibly had a wider margin been given a recurrence would have been avoided, but certainly nothing in any way suggested the desirability of increasing the extent of an already severe operation. One thing is quite evident, that, had this patient been left much longer with so foul a mass of ulcerating tissue at the entrance to his respiratory system, he would soon have fallen a victim to a septic broncho-pneumonia. Looking at his present condition, and the time that has elapsed since the last operation, we may reasonably hope that there will be no further trouble.

SARCOMA OF THE MALE BREAST.

BY WILLIAM F. HASLAM, F.R.C.S.

G. T., aged 43.—*Family History*.—Father died aged 61 of "tumour of brain." Mother alive, aged 70. Four sisters alive and healthy; one brother died of "abscess of the finger."

The patient was first seen on January 21st, 1889; he gave the following history. About one week ago he noticed a small lump about the size of a pea in the left breast above and internal to the nipple. This did not give him any pain whatever, but as it rapidly increased in size he applied at the hospital. He was carefully examined as to the accuracy of this statement as to the size of the growth and maintained that it was correct. There was no history of injury. On examination a hard semi-elastic nodulated swelling, about one inch in length and a third of an inch in width, with its long axis directed downwards and outwards was found in the upper and inner quarter of the left breast. The skin was freely movable over it, and the breast was not fixed on the deeper tissues; there was no retraction of the nipple and no enlargement of the axillary glands. It did not give rise to any pain, and could be freely manipulated. To the touch it felt like an indurated nodule of breast tissue.

Jan. 28th. The tumour was rather larger and softer, especially in the centre, so much so that one would have expected to find fluid; pain still absent.

Feb. 4th. Tumour still increasing in size; signs of fluid less; skin movable over it; no deep fixation of growth. Admitted into the hospital.

Feb. 8th. An exploratory incision was made into the growth; this confirmed the diagnosis, and the breast was at once removed. On making a section of the growth after removal it was seen to be solid with the exception of two or three spots where cysts were evidently forming, and it was distinctly limited by a capsule. On examination by Dr. Crooke it was found to be a lympho-sarcoma. The patient left the hospital in about three weeks, the incision having nearly healed.

Remarks.—So far as I can ascertain sarcomata of the male breast are extremely rare. I therefore make no apology for briefly recording this case. There are too some points of interest about it that are worthy of consideration.

1st. As to the History.—The patient seems quite certain that when he noticed the growth, a week before we saw him, it was no larger than a pea. We cannot of course say how long it had been there before his attention was directed to it, but its growth was unquestionably rapid from the time it was first observed.

2nd. As to Diagnosis.—When first seen it had all the appearances of a local induration of breast tissue, the lobulation being very marked. At his next visit there was reason to believe that this patch of induration was softening; the sensation to the fingers being just such as is obtained under these circumstances. But at his third visit there was still an increase in size, and no further sign of softening, indeed it was firmer and more elastic, so that it was then diagnosed as some form of sarcoma and treated accordingly.

3rd. As to Prognosis.—The clinical history of the case suggests that a recurrence may very fairly be expected; the rapidity of the growth being unfavourable. The structure of the growth being that of a lympho-sarcoma, and the sarcomatous element consisting almost entirely of small round cells, it seems possible that a deposit may take place in the neighbouring glands.

PERISCOPE.

THERAPEUTICS.

BY ROBERT SAUNDBY, M.D. EDIN., F.R.C.P. LOND.

On the Phenacetins.—By Dr. Dujardin-Beaumetz (*British Medical Journal*, 1889, Vol. I., p. 521.)

Phenacetin C_6H_5 $\begin{cases} \nearrow OC_2H_5 \\ \searrow NHC_2H_5O \end{cases}$ occurs under three forms

—meta-acet-phenetidin, para-acet-phenetidin, and ortho-acet-phenetidin. The first possesses no therapeutic properties, the second and third are alike in their antithermic and analgesic properties, but the latter is far the weaker. The dose of para-acet-phenetidin is from 20 to 30 grains daily. These substances are not poisonous, they are insoluble or very slightly soluble in water. Phenacetin is sold in tabloids, and may replace antipyrin as it is cheaper and effective in a smaller dose. It may be used for the relief of every form of pain, neuralgia, migraine, rheumatic pains, muscular rheumatism, acute articular rheumatism, lightning pains of tabes, etc.

Actæa Racemosa in Diseases of Nervous Origin, by J. Craig Balfour, L.R.C.P. & S. Ed. (*The Lancet*, 1889, Vol. I, p. 476).

—The writer recommends actæa racemosa, or tincture of cimicifuga as it is called in the new pharmacopœia, in acute dysmenorrhœa, in acute spasmodic gastrodynia, in hysterical neuralgia, and other nerve pains; the dose he employed in the cases related was only ten minims.

Contribution to the Study of Paraldehyde, by John Gordon, M.D. (*The British Medical Journal*, 1889, Vol. I, p. 515).—Paraldehyde ($C_6H_{12}O_3$) is a polymeric form of aldehyde (C_2H_4O); it was introduced by Cervello of Palermo in 1883 as a hypnotic; it is stated that its use is followed by no headache, disordered digestion or depression, that the pulse is slowed

but the heart's action strengthened, that it does not diminish the blood pressure but slows the respiration. Dr. Gordon, from numerous careful experiments, comes to the following conclusions :—

(1) Paraldehyde caused an increase in the excretion of urea. (2) It did not in any marked way affect the quantities of chlorides excreted. (3) It did not invariably increase the excretion of the fluid constituents of urine, but in the majority of cases which I have recorded it diminished them. (4) The odour of paraldehyde, when given in large doses, was found in the urine, shewing that some of it probably passed unchanged through the system. (5) After the full dose of the drug the respirations were slowed, and rendered tranquil and steady. (6) It had no appreciable effect on temperature. (7) In cases of average health without sleeplessness it did not have any hypnotic influence except in large doses. (8) It caused no loss of appetite. (9) There was sometimes a tendency to perspiration under its influence, which atropine controlled. (10) The blood-pressure was only slightly reduced by the smaller doses, the large dose reducing it more, but only after distinct slowing of the respiration. (11) The pulse was slowed. (12) It diminished the reflex excitability of the spinal cord. (13) It had a peripheral influence in controlling sensation. (14) It speedily diminished, and in large doses destroyed, the irritability of motor nerves. (15) Equal doses diminished the excitability of motor nerves sooner than that of muscle. (16) Small doses first slightly excited and then diminished the excitability of muscle substance. (17) Large doses speedily destroyed (temporarily) the irritability of muscle substance. (18) There was a tendency to complete recovery in the muscle after a small dose; but seldom complete recovery after a large dose. (19) Curarised muscle shewed increased excitability over non-curarised muscle when treated with an equal dose of paraldehyde and equally stimulated.

Cocoonut as a Vermifuge.—Professor Paresi, of Athens, when he was in Abyssinia, happened to discover that ordinary cocoa-

nut possesses vermifuge qualities in a high degree. He took, one day, a quantity of the juice and pulp and shortly afterwards felt some amount of gastric disturbance, which, however, passed off in a few hours. Subsequently he had diarrhœa and was surprised to find in the motion a complete tænia, head and all, quite dead. After returning to Athens, Professor Paresi made a number of observations which were most satisfactory, the tænia being always passed and quite dead. In only one case was the head wanting. He orders the milk and the pulp of one cocoanut to be taken early in the morning fasting, no purgative or confinement to the house being required.—*Lancet*, August, 1888.

A correspondent of the *Times of India*, writes that the cocoanut has been used as a vermifuge in India for probably forty generations by the beef-eaters of the country, and is so well known there as a means of expelling the flat worm, that he cannot conceive how information of the fact has not reached England before. When properly prepared and intelligently administered, so says the writer, the cocoanut is equally efficacious with male fern oil, kousso, pomegranate root, or turpentine, while it is as pleasant to the palate as they are offensive.—*Pharmaceutical Journal and Transactions*, Nov. 3, 1880.
—*American Journal of the Medical Sciences*.

Successful Treatment of Obstructive Suppression of Urine.—C. H. Ralfe, J. R. Godlee (*The Lancet*, March 2nd, 1889.—Dr. Ralfe and Mr. Godlee related a case of suppression of urine caused by impaction of calculi in both ureters, and relieved by operation. A lady, aged twenty-six, had been under the care of Dr. Brookhouse, of Brockley, for acute rheumatism four years previously, and attacks of renal colic on both sides with hæmaturia. On July 31st, 1888, she had an attack of right renal colic which passed off. It was followed the same day by an attack of left colic, which did not pass off, and when seen on Aug. 8th she had had complete suppression for fifty three hours. The left kidney was exposed in the usual manner and incised. Very little urine escaped, and no stone was found, but on passing

the finger down the course of the ureter a small stone was felt about two inches below the kidney. The ureter was drawn towards the wound and opened by a vertical incision sufficient to allow of the withdrawal of the stone; a tube was left in the kidney. The bladder and the lower end of the ureters had been previously explored by dilating the urethra and introducing the finger. There was an immediate relief of the symptoms. Large quantities of urine were passed by the wound, but none by the urethra, for three days. On Aug. 13th there was a slight attack of right renal colic, and another on the 23rd. On the 15th the tube and stitches were removed, and on the 28th the wound had completely healed. On Sep. 3rd the right kidney was exposed and incised, but only a mass of gravel was found in it, and no stone was met with in the ureter, though it was traced down as far as the point where it crosses the iliac vessels. Blood appeared in the urine immediately after the operation, and also some gravel. By the 14th the discharge of urine from the wound was very slight, and the tube was accordingly removed, after ascertaining that the ureter was patent by pouring some ink-stained fluid into the kidney, which the patient instantly passed per urethram. The bladder was also sounded, but no stone was struck. On the following day a small stone was passed per urethram. Between this time and the end of October the patient had three attacks of pain in the right side, one of which was rather severe. She is now, however, perfectly well. The peculiarities of the case, and the justification for the first and second operations were discussed by the authors.

We have received a copy of the following letter :—

“MIDLAND COUNTIES CHEMISTS’ ASSOCIATION.

“*To the General Council of Medical Education and Registration.*

“Mason College, Birmingham, April 9, 1889.

Gentlemen,—At a recent Meeting of this Association the question was raised by one of its members as to the meaning in Prescriptions of the sign “Oss.” He shewed that he had endeavoured to ascertain the opinion of local medical practitioners, and that out of twenty-eight replies to an enquiry it was

found that twelve Physicians and Surgeons intended *eight* ounces to be dispensed, and sixteen, *ten* ounces. Under these circumstances the Council of this Association considers that the matter should be definitely settled by your honourable Council, and respectfully urges you to take such action as will relieve Pharmacists from the serious difficulty under which they are now unavoidably placed.

"I am, Gentlemen, your obedient servant,

"GEO. E. PERRY,

"*President of the Association.*"

The matter is one which appears to demand a formal decision by the General Medical Council, though there can be no doubt that according to the British Pharmacopœia a pint is twenty fluid ounces, so that half a pint must be ten ounces.

MEDICINE AND GENERAL PATHOLOGY.

BY ROBERT SAUNDBY, M.D. ED., F.R.C.P. LOND.

Ueber Glycogen im Harn des Diabetikers.—Leube (*Virchow's Archiv.*, Bd. cxi., p. 113) has found glycogen in the urine of diabetic patients. He thinks that the epithelium of the convoluted tubes converts a certain amount of sugar into glycogen, and that this is afterwards given up by the cells and appears in the urine.

De la Quantité d'Oxyhémoglobine et de l'Activité de la Réduction de cette Substance chez les Diabétiques.—A. Henocque (*Archives de Physiologie*, 1889, p. 211). He quotes the statement of Lecorché that the red corpuscles are increased in the blood of diabetics. He has made 80 analyses of urine and 72 analyses of blood in 10 diabetics. The quantity of oxyhæmoglobin was generally normal, and it did not vary directly with the quantity of sugar eliminated, and there seemed to be no relation between them; but glycosuria seems to have some effect in leading to an increase of the oxyhæmoglobin. He has sought to establish a relation between the activity of reduc-

tion of oxyhæmoglobin and the degree of glycosuria, or the energy of the exchanges between the blood and the tissues. He succeeded in finding a relation between the production of sugar and the activity of this process, both coinciding with the commencement of the digestive period, and distinctly influenced by regimen.

Pathogeny of Diabetes.—Arthaud and Batte, "Bulletin de l'Académie des Sciences" (*Le Progrès Médical*, February 9th, 1889).—They shew that it is possible by centrifugal irritation of the vagus to reproduce in animals all the clinical varieties of diabetes—insipidus, azoturic, glycosuric, according to individual predispositions exactly as in man. When, by the injection of an inert powder a neuritis is set up first in one vagus then in the other, after some weeks there supervene albuminuria, polyuria, gastric disturbances, glycosuria and wasting. Death occurs about a month after the second operation. When the neuritis attacks only the central end of the vagus there are only temporary troubles and the animal recovers, but when the peripheral end is attacked the animal dies, though section of the nerve would not be fatal. At first there is increase of weight with polyphagia, then polyuria with slight albuminuria and intermittent glycosuria. Little by little the animal wastes, gets weak, vomits, and finally dyspnoea sets in with lowering of the temperature and death follows. The most important lesions observed are in the heart, liver, stomach and kidneys.

Experimental Studies on Diphtheria.—Roux and Yersin. "Annales de l'Institut Pasteur" (Analysed in *Journ. de Méd. et de Chir. Prat.*, *Fevrier*, 1889, p. 63).—The authors find the microbe described by Klebs and Loeffler to be constant; pure cultures cause false membranes and paralysis in animals; moreover the cultures contain a poison which, according to the dose employed, kills the animals rapidly or causes paralysis, *without the intervention of living microbes*. For effective inoculation it was necessary to excoriate the mucous surface. No organisms were found in the blood or organs except after intravenous injection; even then they rapidly diminish, and after

twenty-four hours none can be found, the disease pursuing its course in spite of their disappearance. The fact of most clinical importance is that the microbe cannot develop on a healthy mucous surface.

Acromegaly.—O. Fraentzel (*Deutsch. Med. Wochenschr.*, 1888, 32, 651) reports another instance of this disorder occurring in a male patient, 58 years of age, who died of phthisis. While still a boy, his extremities attained such a size that everyone noticed them; and when desiring to choose an occupation, his hands were so large that he became a wheelwright, being unfitted for any more delicate trade. At the age of twenty cough developed, and at about the same time there was noticed a well-marked polydipsia, which continued through life. He consumed large quantities of spirits, and when unable to obtain this after entering the hospital, drank daily several litres of water instead. There was never any excessive hunger. The urine contained neither albumin nor sugar. Examination of the patient showed a decided overgrowth of the bones and soft parts of the face and terminal portions of the limbs. The nose, lower jaw, lips, and cheeks were strikingly large; the distal portions of the forearms thick, the bones of the hands and feet large, thick, and widely separated, while the soft parts were swollen and doughy. There was no enlargement of the thyroid gland, and no dulness over the manubrium of the sternum.

A daughter of this patient, aged eleven years, exhibits an enlargement of the hands and feet, which is clearly the beginning of the same condition shewn by the father. Her face has still a normal appearance. No other instance of the disease can be found in the family. The author details the careful measurements made of the overgrown parts at the autopsy, and describes the conditions of the organs. It is particularly to be noted that there were no remnants of the thymus gland, the thyroid gland was normal, and there was a scarcely noteworthy increase in the size of the hypophysis cerebri.

A Case of Osteomalacia in a Young Adult Male.—D. Burgess (*Medical Chronicle*, October, 1888) reports a case of osteo-

malacia occurring in a man 21 years old, and ending fatally. At the age of fifteen he fell and fractured one or both arms. Up to the age of seventeen there was but slight, if any, curvature. The legs seemed to have failed first, and for over two years the patient had not been able to go about. His hands then became useless, and for four months he had been bed-ridden. There was no history of rickets in the family. Examination revealed decided deformity of the thorax, the ribs being markedly bent, the spine shewing considerable anterior and lateral curvature, and the sternum being prominent. The humeri, radii, and femora were bent like green-stick fractures, or old fractures united at an angle. The tibiæ were inclined, as in knock-knee; the muscles of the trunk and limbs were greatly wasted, and there was correspondingly great loss of power in them. There were some contractures, chiefly of the flexors. There was some pulmonary catarrh, but in other respects the viscera appeared normal. The patient had for some time been subject to convulsive seizures, and shortly after died in one of them. It was stated that in this case the legs were bent hither and thither, and took all sorts of shapes. No autopsy was permitted.

In order to determine on a diagnosis between osteomalacia and late rickets, the author first reviews some of the cases of the former disease which have been reported, and concludes that bending of the ribs does not necessarily indicate rickets, nor does the situation of the deformity of the extremities indicate osteomalacia. The long and intractable course of the case reported was in favour of osteomalacia, though not a proof of it. The apparently bony union of the fractures proved nothing. The principal fact against rickets was the late age of the appearance of the disease. No case is recorded of rickets beginning as late as puberty. Osteomalacia under twenty is a very rare disease, only ten instances being recorded up to 1866. Yet a fatal case not beginning until after puberty is probably osteomalacia and not late rickets. Trousseau and others have held the view that the two diseases were but different aspects of the

same affection, the differences in the deformity being due to the altered conditions of the skeleton in infancy, puberty, and maturity. While this is simple and comprehensive, the author considers the supposition contradicted by the occurrence in infancy of well-marked instances of osteomalacia.

SURGERY.

BY GILBERT BARLING, F.R.C.S.

Surgery of the Thyroid Body.—In the *Bristol Medico-Chirurgical Journal* for December, 1888, is a paper by Mr. Harsant on the Surgery of the Thyroid Body. The details are given of four cases of simple hypertrophy of the thyroid; one was treated by repeated injections of tincture of iodine, one by division of the isthmus, one by excision of the right lobe, and one by removal of the isthmus. All of the patients recovered; the pressure symptoms were completely relieved and the parts not removed underwent atrophy, so that there was no longer disfigurement by tumour. The patient treated by iodine injections was a female aged twenty-one, in whom pressure on the air passages developed rapidly. Ten minims of tincture of iodine were injected into the tumour every week for three months and it steadily diminished in size, and about a year later the thyroid was normal. Mr. Harsant has treated a large number of patients in this way, but has been disappointed with the result in the majority of cases.

Goitre with Exophthalmos and Nervous Disturbance cured by Injections of Tincture of Iodine.—Thyssen (*Le Progrès Médical*, January 26th, 1889).—The patient, a female, whose mother also suffered from the same disease, was under treatment for two months, during which time twenty-two injections of iodine were made. At first about half a Pravaz's syringe full was inserted, then three-quarters, and eventually nearly the whole contents of the syringe; but the quantity was distributed over two punctures in different parts of the tumour. At the end of the injections

the tumour was still decreasing, and eventually disappeared; in addition, the nervous phenomena were greatly relieved. It is not stated whether the exophthalmos was diminished.

Scirrhus of the Thyroid Gland. Excision.—Billroth, (*Wiener Med. Woch.*, No. 20, 1888).—In a paper on this subject the author describes two cases he has been able to verify. The first patient was a female aged 40, who had suffered from dysphagia for four years. There was also hoarseness and paralysis of the left vocal cord, but the trachea, though displaced, was not narrowed. A medium-sized bougie could be passed with difficulty through the constricted portion of the œsophagus. On the left side of the neck, close to and somewhat behind the larynx, was an indurated mass, resembling a swollen thyroid, and extending into a chain of small nodules reaching as far as the top of the sternum. The main mass of the tumour was removed, but complete extirpation was impossible; and though some relief was given to the symptoms at the time, in four months the patient's condition was worse than before the operation.

The second patient was a woman aged 26, in whom the symptoms were more rapid. The masses of growth were adherent to all the adjacent structures and could only be partially removed, and the patient died soon after the operation from bleeding or from entrance of air into the left innominate vein.

The examination of the removed parts in each of these cases shewed an extremely dense fibrous structure, which creaked under the knife. Microscopically the bulk of the growths was made up of fibrous tissue, studded here and there with traces of gland tissue, and presenting much the appearances seen in atrophying scirrhous carcinoma of the breast.

Report of Forty-two Cases of Intubation.—Priest (*New York Med. Rec.*, February 23rd, 1889).—In thirty-five of the cases membrane was detected, and in the seven remaining there was some ground for suspecting that diphtheria was the cause of the obstruction. Seeing, therefore, that nearly all the patients were suffering from diphtheria, twenty-six per cent. of recoveries is very satisfactory and probably higher than the average, after

tracheotomy, for the same disease. The average time the tube remained in the larynx was six and a half days. Coughing after drinking was a constant symptom, and in several cases it induced vomiting; but a more troublesome complication was the collection of mucus in the throat, obstructing the tube, and which was only relieved by emetic doses of ipecac. In three cases, dyspnoea being present, the tube was removed and found to be nearly filled with thick mucus and cheesy material, the dyspnoea at once being relieved. In three patients ulceration from the pressure of the tube was diagnosed, but only one autopsy could be obtained. In this patient, a child aged one year, the tube had been used for six days, and when it was removed the respirations became slightly stridulous, with paroxysms of coughing, which were almost incessant until the child died two hours later. A small, irregular ulcer existed at the base of the epiglottis corresponding to the upper end of the tube, and a somewhat larger one, on the anterior surface of the trachea, corresponding to the lower end of the tube and extending through the mucous membrane and involving the cartilages. In the two other cases, after removal of the tube, there was the same stridulous breathing with harsh cough, expectoration of blood-stained mucus, and a very foetid odour. In neither of these cases could the ulceration be verified by autopsy.

Recent observations relating to Intubation (by F. Huber, *Archives of Pediatrics*, Jan., 1889).—A table of 94 cases treated by Intubation is given but without classification as to the various causes of obstruction, the only comment being that in all the stenosis was sufficiently grave to warrant operative interference, and that all were "late" cases. Under three years of age 35 per cent. of recoveries followed, above that age 44½ per cent., or a total percentage of about 40. Much as Dr. Huber approves of intubation he recognises certain drawbacks to it. Feeding is often difficult and should be superintended by a trained nurse or the medical attendant. Solid or semi-solid food may be more easily managed than fluid, or it may be necessary to resort to

rectal or to forced feeding by the stomach tube, or intermittent intubation may be adopted. Occasionally the tube when introduced pushes membrane down before it and gives rise to serious dyspnoea, or the upper end of the tube may be obstructed by the overlapping of the swollen epiglottis and ary-epiglottic folds, a difficulty which may be met by turning the flange of the tube backwards instead of forwards. If the symptoms indicate that the trouble is localised to the larynx and trachea a full-sized tube is recommended, but if membrane is suspected in the bronchi a smaller tube may be inserted with a view to its being coughed out at intervals. This plan is spoken of as "Intermittent Intubation." If a tube is used smaller than the age of the patient indicates it will be coughed out at intervals and is often followed by considerable quantities of membrane with great improvement in the symptoms, immediate replacement of the tube by the medical attendant not being called for. The smaller tube is said to relieve the dyspnoea as effectually as the larger, and the spontaneous expulsion of membrane is most valuable in those cases where the bronchi are involved. In the intervals food, medicine, and stimulants may be administered.

Intubation with an ordinary rubber tube.—Williams (*New York Med. Rec.*, January 26th, 1889).—The patient, a child aged 11 years, was suffering from diphtheria, which covered the fauces and soft palate with exudation and gave rise to symptoms of suffocation with great restlessness. A soft rubber tube, measuring seven-eighths of an inch externally, was "passed beyond the obstruction and its extremity left just at the larynx," with immediate relief to the symptoms. The tube was removed at intervals for cleansing purposes and to allow of nutrition and medication, but it appears to have necessitated the constant attention of a nurse, or one of the friends, to prevent displacement. At the end of seventy hours it could be dispensed with, and the patient made a good recovery.

Primary Tuberculosis of Tongue. Recovery. Freedom from Disease three years later.—Dr. Bull, of New York, records this case in the *Medical Record* of January 19th, 1889.—The patient,

a man aged 30, was admitted to hospital with an ulcer quite at the base of the tongue, which had existed for six months. The base was sloughy, the edges indurated, there was profuse salivation, great pain in swallowing, and a hard gland existed beneath the ramus of the jaw. The larynx and lungs were sound. Kocher's operation was performed, the parts removed comprising the whole tongue, the enlarged gland, and the sub-maxillary and lingual glands. Microscopic examination left no doubt as to the tuberculous nature of the disease, although the tongue was removed under the impression that it was affected with cancer. The patient was exhibited three years later and was then in perfect health, with the power of speaking clearly, and with the sense of taste as acute as ever it was.

LARYNGOLOGY AND RHINOLOGY.

BY CHRISTOPHER LEWIS, M.D.

Traumatic Laryngitis. Probable Rupture of some of the Muscular Fibres of the Thyro-Arytenoideus Internus. Voice broken. —Dr. Lagaarret (*Annales de la Polyclinique de Bordeaux*, January, 1889). —The following case and comments present points of considerable interest: G. S., aged 35 years a pedlar, while one day in the suburbs of Bordeaux was indulging in loud inarticulate cries in order to attract the attention of buyers, was suddenly seized with a sharp pain over the larynx, and immediately his voice broke and he was unable to speak. A laryngoscopic examination shewed that the left vocal cord was normal. The right cord was red and tumified. On phonation, a depression was observed towards the middle part and at the free edge, thus producing a glottic opening. Before and behind this depression or notch the vocal cord appeared rounded and a little swollen, and the cord was flabby on efforts of tension, and seemed shortened. There was some hæmorrhage, but this varied in quantity. The diagnosis of traumatic laryngitis was made, and although the patient was under observation and treatment for

some time the voice did not recover, nor did the notch disappear.

Aphonia, more or less sudden and complete, may follow great vocal efforts; in such cases the laryngoscope reveals—usually at the inferior aspect of the vocal cord, but especially near its free edge—a vascular rupture. This discharge of blood may be diffuse or circumscribed. In the first variety the ecchymosis beneath the mucous membrane may reach to the whole extent of the vocal cord; in the latter, the blood checked by the cellular tissue beneath the mucous membrane may collect in the form of a cyst—a non-pedicular tumour whose limits are more or less marked. A spontaneous rupture may give rise to considerable hæmorrhage, which is alarming to the patient. The diagnosis, however, based upon the history of the case and the aspect of the lesion, is tolerably easy. In some rare instances, as in the case referred to, it happens that under the influence of violent vocal efforts the thyro-arytenoid muscle contracting with unbounded energy causes a rupture of some of the muscular fibres, analagous to ordinary muscular ruptures from excessive strain.

The patient, as has been mentioned, at the moment of the forced utterance of sound, felt a sharp pain, as if he had been struck by the lash of a whip, and the voice broke instantaneously, and remained so. At the seat of the rupture there is a slight notch, and the effusion of blood has been sometimes abundant. If, however, the hæmorrhage in these cases is considerable it becomes difficult, at the moment of the accident or a short time afterwards, to diagnose the nature of the lesion, but when absorption has taken place any doubt is no longer possible, and the diagnosis easy. The prognosis, on the other hand, is grave in persons who are called upon to give their vocal organs excessive use. The thyro-arytenoid being the more exposed, on account of its situation, is the most frequent muscle to give way, although the forced phonation may produce either a vascular or muscular rupture in the other constrictor muscles of the larynx—more particularly the crico-arytenoid lateralis. Symptoms

furnished by the direct examination do not differ one from the other from those laryngoscopic appearances met with in the isolated paralysis of these muscles, and which is more or less complete according to the extent of the lesion. Treatment advised is rest, antiseptic powder, chloride of zinc, and later on Faradization.

Nervous Aphonia in a child.—Dr. Mouré (*Annales de la Polyclinique de Bordeaux*, January, 1889).—A boy, aged 13 years, presented himself at the hospital with a complete aphonia of six weeks date, brought on by getting his feet wet one evening. The following morning when he awoke it was found that he had completely lost his voice. He had no pain, no cough, and his respirations were natural. A laryngoscopic examination shewed a slight catarrh of the vocal cords and a paralysis of all the muscles of phonation. When the child attempted to produce a sound the paralysed chords remained immovable forming the two sides of an isosceles triangle, with an acute anterior angle and limited at the base by the two arytenoids, which remained apart. At this examination Dr. Mouré tried several times to make the child utter the vowel *é* under the laryngeal mirror, and in a minute or so the child recovered his voice completely. The examination now revealed a normal action of the vocal apparatus; the voice being, however, husky in consequence of the catarrhal state of the chords. We find here a case of simple paralysis of the adductors following a cold, accompanied by an acute laryngitis. This shews the considerable influence which a slight congestion of the laryngeal mucous membrane may have upon the nervous supply of the vocal muscles, but which may, by a few simple vocal efforts, be rapidly relieved. In many cases of this type of paralysis could we not recognise, as a determining influence, some degree of cold produced on the sensitive region of the arytenoids, and as a point of departure of this nervous debility of the vocal organs the consecutive paresis of the ary-arytenoid muscles? Besides many authors have attributed of late years a particularly delicate sensibility to this portion of the glottic region, and quite recently

also Dr. Mouré in his "clinical considerations on the troubles of the voice in acute laryngeal catarrh" points out the importance which is to be attributed to the ary-arytenoid muscle in aphonia and acute laryngitis. These nervous paralyses are more frequently met with in adults and especially in women, in whom the cause is generally attributed to hysteria. It is rare, in fact, to find such cases in children; boys are rarely attacked, at least very few examples are recorded.

On Reflex Neurosis Depending upon Naso-pharyngeal Disease.

—Dr. Netchaieff, Moscow (*Journal of Laryngology*).—The author describes three cases. First case, that of an advocate aged 40, who was one day suddenly attacked by aphasia, with numbness and pricking about his right hand, right cheek and tongue. The aphasia symptoms disappeared in a few minutes, but he suffered now and then from numbness in the parts mentioned, with twitchings in left eye. The paroxysms were brought on by any attempt at reading and writing, which ultimately prevented him from carrying on his work. When Dr. Netchaieff saw him a slight nasal catarrh was the only lesion detected, but some months afterwards he was summoned to the patient on account of a severe attack of numbness and pricking pain, which now appeared in the left hand and cheek, and he further complained of a peculiar sensation about the head—aural noises, cardiac pain, and palpitation. An examination of the nasal cavity revealed a papilloma the size of a cherry stone, situated between the left eustachian tube and choana, with considerable enlargement of the right middle turbinated body, with stenosis of the corresponding meatus. The whole cavity was painted with a ten per cent. sol. of cocaine, and great relief soon followed. Ten days later the hypertrophied tissue over the turbinated body was removed by means of the galvano-cautery. On the following day the patient had lost all traces of his suffering, was able to work without fatigue, and has remained well since.

Case 2.—A gentleman, aged 38, had been suffering for eighteen years from frequent recurring angina and catarrhal rhinitis, and since his twenty-third year from most agonising

spasms of the gullet, occurring especially on swallowing fluids, and associated with an extreme difficulty of breathing and sensation of immediate suffocation. An examination revealed nothing abnormal other than an enlargement of the right inferior turbinated body and chronic swelling of the right half of the posterior wall of the pharynx. The pharynx was painted with cocaine, and then the patient was made to swallow some water. No spasm occurred. The parts were, without delay, thoroughly burned with a galvano-cautery. All the symptoms soon disappeared, and the recovery was complete.

Case 3.—A lady, aged 38, applied for relief on account of attacks of dyspnoea, palpitation, headache, and giddiness of one and a half year's standing, induced by walking and aggravated during her catamenia. There was an enlargement of right lower turbinated body, and by two applications of chromic acid to this hypertrophy the recovery was permanent and complete.

Dr. Netchaieff considers that these cases are typical instances of the reflex neurosis, starting from a neglected diseased state of the naso-pharynx. Case 1 is that of an intermittent one-sided reflex spasm of the cerebral vessels, with consecutive anæmia of the corresponding hemisphere. The author also points out how anatomy and physiology furnish an explanation of the mechanism of the neurosis.

Antipyrin in Nasal Hæmorrhages and in Intra-nasal Disease.

—Dr. Henocque (*Journal of Medical Sciences*) considers that the drug produces a constriction of the vessels and of the tissues at the same time that it produces coagulation of the blood. It may be used in powder, in solution incorporated into gauze, or in ointment. It is recommended that a five per cent. solution be used in the course of operations in the nose. Cotton wadding can be sterilized and then dipped into a concentrated solution and allowed to dry. Henocque thinks there is an antiseptic action in addition to the hæmostatic. Heriker (*New York M. J.*) reports that with a four per cent. solution a decided hæmostatic effect is produced, but not superior to cocaine. Sixteen grains to the ounce of water, with a few minims of glyce-

rine, was as strong as could be borne ; there was no blanching or anæsthesia, but its action was sedative and found useful in sneezing lachrymation, coryza, and hay fever. It has one advantage over cocaine in not causing numbness and dryness of the parts and over stimulation of the nervous system. It causes considerable smarting and is unequal to the relief of severe inflammation or extreme occlusion of the nerves. Combined with cocaine it increases the topical action of the latter, so that cocaine can be used in a weaker solution, say from one-half to one-fourth per cent. solution.

Treatment of Epistaxis—Dr. Geneuil (*Deutsche Med. Zeit.*, No. 84) recommends injections of freshly expressed lemon-juice by means of a small glass syringe—the blood-clots being previously removed by hot water.

Glottic Spasm of Nasal origin.—Dr. Ruault (*Arch. de Laryngol., Journal of Rhinology*, Jan., 1889).—The following is a summary of the author's views :—

1. Certain lesions of the mucous membrane of the nasal fossa, such as mucous polypi and hypertrophic rhinitis, may provoke reflexly repeated attacks of spasm of the glottis, which in certain cases may be sufficiently severe as to necessitate tracheotomy.

2. These attacks of laryngo-spastic dyspnœa may last for a very long period, sometimes twenty years or more, not yielding to any medication but being rapidly cured by treatment of the intra-nasal affection upon which they depend.

3. Women, and particularly the hysterical, appear to be pre-disposed to the affection ; but it may occur as readily in individuals of both sexes who do not and never have presented any signs of hysteria.

4. Glottic spasm of nasal origin may affect children as well as adults.

5. Along with glottic spasm bronchial spasm may occur, and one sometimes finds a more or less accentuated spasmodic state of the respiratory passage persisting for a long time beyond the attacks.

- 6.—Affections of the voice due to phonatory spasm are a frequent complication of the disorder.

7. Prognosis is very good when the affection is recognised but bad in the contrary case.

8. Diagnosis is made by excluding all causes of glottic spasm, then by anamnesia and complete rhinoscopic examination along with examination with a probe and cocaine.

9. The treatment of the attack when severe consists in the intra-nasal application of cocaine, the administration of chloroform, or if necessary opening the trachea.

10. The treatment of the disorder is really only that of the nasal affection which is the cause of it.

REPORTS OF SOCIETIES.

BRITISH MEDICAL ASSOCIATION.

BIRMINGHAM AND MIDLAND COUNTIES BRANCH.

Ordinary Meeting, Thursday, March 14th, 1889, T. W. THURSFIELD, M.D., President.

Acromegaly.—Dr. Saundby exhibited a large number of microscopical preparations from his own case and from one published by Dr. Pierre Marie.

Madelung's Operation.—Mr. Marsh exhibited a man æt. 28 suffering from adenoid carcinoma of the lower three and a half inches of the rectum, involving the whole circumference, but a small extent only of the anterior wall. Fourteen days ago he performed this operation as a preliminary to excision of the rectum, which he proposed doing in the course of another week. So far as he knew it was the first case recorded in this country. The usual incision for sigmoid colotomy was made and the colon found without difficulty. To avoid the possibility of mistaking the opening from a twist of the bowel a small-sized œsophageal bougie was passed up the rectum into the sigmoid flexure. A loop of six inches was drawn down to anchor upper end and

guard against subsequent prolapse, and the bowel was divided with scissors. A few bleeding points were tied with fine catgut, and the edges of the lower opening were folded in and sutured with a continuous suture (modified Lembert). This end was now returned to the abdominal cavity, and the upper orifice, which had been carefully held by an assistant, was sutured to the edges of the abdominal wound by interrupted sutures passing through all the structures. The man had not a bad symptom, and made a very rapid recovery, getting up on the tenth day.

He thought this operation applicable only to those cases in which the lower end of the rectum was involved—troublesome complications might result if the disease was out of reach, from retention of secretion or discharge above the seat of disease. It seemed especially suitable as a preliminary to an extensive excision of the rectum, absolutely preventing all irritation from the passage of fæces, making it possible to operate aseptically and thereby diminishing the risk of the operation. An important argument in favour of this preliminary, where the whole circumference of mucous membrane has to be removed, is the fact that in by far the greater number of cases either recurrence, or stricture from cicatricial contraction, necessitates a subsequent colotomy, often to the great disappointment of the patient.

Inguinal Colotomy.—Mr. Marsh also exhibited a man æt. 55 suffering from malignant disease of the upper part of the rectum, upon whom he had performed the old operation of inguinal colotomy eighteen months ago, and prior to the publication of Mr. Herbert Allingham's first paper on that subject. There had been six days' complete obstruction, and the bowel was opened at the time of operation. The case well illustrated prolapse of the bowel from both the upper and lower orifices, demonstrating that the modification recently proposed by Mr. H. Allingham will only partially overcome this drawback to the operation, as pointed out by Mr. Harrison Cripps.

Mr. Marsh remarked that when there is an inefficient spur a slight degree of prolapse is an advantage, as it completely prevents the passage of fæces into the lower segment of the colon.

Trephining for Cerebral Abscess.—Mr. Jordan Lloyd shewed a man aged 29 years upon whom he operated in October last for cerebral abscess secondary to chronic middle ear disease. At the time of operation the patient was almost moribund, and the only localising symptom present was an aphasia of a few hours standing. The skull was trephined one inch above the left auditory meatus, and all the tissues down to the brain were healthy. An abscess containing about four ounces of stinking pus was opened in the temporo-sphenoidal lobe, and the patient made a practically uninterrupted recovery.

Removal of Uterine Appendages.—Mr. Lawson Tait exhibited the appendages which he had just removed from a young girl aged 24, who gives a characteristic example of an extreme degree of infantile arrest of development of the uterus. The girl had begun to menstruate at the usual time but had never succeeded in establishing anything like a proper function. It came on at long irregular intervals, though at every month there was a struggle evident for its occurrence, the patient suffering agonising pain without any external evidence of the show save at protracted intervals. The uterine appendages could be felt large and voluminous as the uterus was not thicker than a lead pencil. About a year ago the patient was sent to Mr. Tait by Dr. Calwell, of Wellington, on account of her sufferings, she being obliged to earn her livelihood. Mr. Tait advised that the uterine appendages be removed, but this was not agreed to by the patient or her friends, although everything short of that had been tried unavailingly in the hope of obtaining relief, without any satisfactory result. Nearly a year later the patient came and begged for relief and the operation was performed. The Fallopian tubes were seen to be of unusual size, in fact between them they contained more tissue than the uterus. Under such circumstances as these relief could not be expected except by removal of the appendages because, firstly, the tubes were more than enough to carry out their function, and the uterus was wholly unable to assist them. Arthur Johnstone has clearly shewn the reason of this.

Removal of a soft œdematous Myoma.—Mr. Lawson Tait also exhibited an enormous soft œdematous myoma which he had removed from a lady between sixty and sixty-one years of age, a few days before. The case had been seen by Sir Spencer Wells ten years before, who had advised that nothing should be done. The tumour did not arrest its growth even though the patient was then over fifty, nor was the menstrual function in any way interfered with; both went steadily on till the patient saw Mr. Tait some two or three weeks ago, at which time she had reached an enormous size, and though somewhat discouraged by her advanced age she was eagerly desirous of relief. The operation was performed very easily for the tumour proved to be a myoma of the broad ligament, and it was shelled out with the greatest ease. The patient however did not really ever rally completely from the shock of the proceeding, but died, making another of the instances in which regret has to be expressed at the delay at the removal of the disease. This disease did not arrest its growth at the menopause even when that process was completed, and many instances like the present are now on record as having prevented the access of the change of life. This case proves also what Mr. Tait's former experience uniformly confirms, that soft œdematous myoma is a disease not influenced by menstruation, and therefore not likely to be affected by removal of the uterine appendages, in this way differing entirely from the other form of myoma, the hard multinodular.

Notes on the use of the Electric Cystoscope.—Mr. Barling read a paper on this subject which is published at page 257.

Mr. Jordan Lloyd said he had had some considerable experience and he doubted whether it would fulfil the hopes that had been raised respecting it.

Mr. Vose Solomon ventured to remind the Society that the criticisms they had heard were in respect to tone an echo of those which had been elicited in the past upon the birth of other instruments of precision,—notably the ophthalmoscope, the sphygmograph, and more recently the stethoscope. Of course

the diagnostic value obtainable from the beautiful instrument they were considering must largely depend on the operator's aptitude for the special manipulation and a cultivated experience. The tendency of instruments of precision is to raise the man of mediocre talent more nearly to a level with the practitioner possessed of considerable mental power, strong surgical instincts and great sagacity. He was sanguine that the application of an additional sense to that of touch in determining the nature of certain vesical maladies will assuredly secure a brilliant future for the cystoscope.

Mr. Marsh thought the greatest difficulty to contend with in the use of the cystoscope was in obtaining a clear medium in the bladder, and referred to cases of tumour of that viscus, where the passing of an instrument, however carefully, immediately caused hæmorrhage. It was possible that in these cases Berkeley Hill's modification for passing a continuous current of cold water during the examination might prove useful. In some obscure cases the cystoscope was of undoubted diagnostic value, and with it he had, in a case of troublesome cystitis, subsequent to suprapubic removal of a papilloma, been able to confirm the diagnosis of a phosphatic calculus hanging from the anterior wall of the bladder and attached to a suture that had ulcerated its way through.

Dr. Lycett inquired whether, in inducing local anæsthesia by injecting a drachm of a ten per cent. solution of cocaine into the bladder, which was equivalent to about five grains, he had observed any ill effects from the drug, a grain of which when administered subcutaneously had, in some instances, been followed by alarming symptoms.

A Special General Meeting of this Branch was held in the Medical Institute on Wednesday, April 3rd, Dr. T. W. THURSFIELD, President, in the Chair.

Mr. Lawson Tait moved the following Resolution :—

“That this Branch heartily approves of the principle of the Bill about to be introduced into the House of Commons, by which it is proposed to restore to the Members of the Royal College of Surgeons the full and unrestricted exercise of their ancient corporate rights and privileges.”

which was seconded by Mr. Manley.

Mr. Barling then moved the following amendment :—

“That this Branch sympathises with the desire of the Members of the Royal College of Surgeons to take part in the management of the affairs of the College.”

This was seconded by Mr. Eales.

Mr. Lawson Tait, with the consent of his seconder, thereupon withdrew his Resolution, so that this Amendment became the substantive motion.

The discussion was continued by Dr. Rickards, Dr. Simon, and Mr. Bennett May.

Mr. Jordan Lloyd moved the following Amendment :—

“That this Branch of the British Medical Association, the members of which belong to many distinct Universities and Colleges, ought not to discuss a question relating to the Constitution of the Royal College of Surgeons.”

This was seconded by Mr. Haslam, and the discussion was continued by Dr. Donovan, Dr. Holmes Joy, Mr. Whitcombe, Mr. Priestley Smith, Dr. Douglas, Dr. Roden, Mr. Newton, and Mr. Lawson Tait.

Mr. Jordan Lloyd then replied. The Amendment was put to the meeting and declared to be lost.

The discussion on the original motion was then carried on by Mr. Marsh and Mr. Bennett May, who moved a Résolution which was ruled by the President to be out of order.

Mr. J. W. Taylor then moved the addition of a rider to Mr. Barling's motion, but this too was ruled out of order.

Mr. Barling's motion was then put to the meeting and declared to be carried *nem. con.*

MIDLAND MEDICAL SOCIETY.

March 20th, 1889, HUGH KER, F.R.C.S. Ed., President, in the Chair.

Sporadic Cretinism.—Dr. Suckling shewed a girl, aged 4 years, suffering from sporadic cretinism. The child was born in Birmingham and had been well cared for, but the mother had noticed that it was not right from birth, the voice being very peculiar and the tongue protruding. The mother had a second child that was all right, but it died from convulsions following whooping cough. The father of the child is said to have been a steady man and to have died from inflammation of the lungs. A half-brother of his has an idiot child. The child's paternal aunt is a confirmed inebriate and is under treatment for alcoholic paralysis. The child has exactly the appearance of myxœdema, the skin of the face being pale and translucent, with œdema of the upper and lower eyelids not pitting on pressure. The nose is broad and flattened; the lower lip large, slightly cyanosed and drooping. The tongue usually projects from the mouth, being very large with hypertrophied papillæ. The skin generally is very rough, especially that of the hands and feet, which are swollen, cold, and cyanosed. The child is stunted, measuring only 26 inches in height (the proper height being about 36) and weighing 24 lbs. The circumference of the head is 18½ inches. The forehead did not recede very much and the occiput projected well, the vertex being flattened. The teeth were all decayed, and the hair was coarse and scanty. The fontanelles were closed. The arms and legs were short, the body long, but the belly was not much swollen. The child was of a very placid and tranquil disposition; it could only utter a few words and was quite unable to stand. No trace of the thyroid gland could be felt. The neck was short and thick, and there were no fatty tumours in the posterior triangles. The temperature was sub-normal. The urine could not be collected, but it was free from albumen. The child's condition had not followed on any infantile disease, but had been present from birth.

Hemiplegia from Inherited Syphilis.—Dr. Suckling shewed a boy, aged three, who had been under his care when three months old suffering from snuffles and mucous tubercles around the anus and mouth. When two years of age choroiditis disseminata was discovered, and nystagmus. The child did well on iodide of potassium and hydrarg. c. cretâ. A month ago the child complained of headache, and in two days he became hemiplegic. The movements on the paralysed side were weak and tremulous. The choroiditis was still present to the same extent as when first discovered.

Eruption due to Brass Grinding.—Dr. Carter shewed a boy suffering from a papular eruption. A large number of the workmen in that foundry were affected in a similar way, and Dr. Carter, after a careful investigation, had come to the conclusion that it was due to the use of oil in the process of brass grinding.

Severe Syphilis.—Dr. Purslow shewed a man who was suffering from syphilis in an unusually severe form.

Dermoid Tumour of Ovary.—Dr. Malins shewed a dermoid tumour of ovary that he had recently successfully removed.

Enchondroma of Sub-maxillary Gland.—Mr. Jordan Lloyd shewed a specimen of enchondroma of the sub-maxillary gland; also the bones from a case of *excision of the knee* in which union had been perfect; *fibrous bodies* removed from the *prostate* by the supra-pubic incision; and a specimen of *sub-luxation of the astragalus* for which he had recently performed amputation. The accident occurred twenty-six years ago, and the condition had not been recognised at the time.

Ovariectomy for Epilepsy.—Mr. Hugh Ker read notes on a case of removal of the ovaries for epilepsy in which great benefit had followed the operation.

Sciatica.—Dr. Simon read a paper on the treatment of sciatica.

REVIEWS.

A MANUAL OF GENERAL PATHOLOGY.*

WORKS on General Pathology from the pen of English pathologists, designed more especially to meet the wants of the student, are few and far between, and his choice has hitherto been limited either to the smaller and popular "Manual of Pathology," by Green, or to the larger and more comprehensive work of Ziegler's, translated by Dr. Donald Macalister, of Cambridge.

Of the manuals promised us during the last year or so, Dr. Payne's is the first in the field of publication; and we must admit that we have derived both profit and pleasure in its perusal.

The originality of the work consists more in its general plan and in the arrangement of its subject matter; and in this respect we think that the book is decidedly in advance of previous works on the subject.

The theme of it—viz., "The Science of Disease"—is discussed at considerable length under two principal heads, viz., "The Processes of Disease," constituting Part I., and "The Causes of Disease," included in Part II.

In the first part will be found interesting chapters on the vascular phenomena of disease generally—viz., anæmia, hyperæmia, thrombosis, and embolism,—including an article devoted to the consideration of the pathological relations of blood pressure, which is very practical in its application, and distinctly a novel feature.

The section on inflammation—which is the groundwork of so much in special pathology—gives a full and clear account of the vascular phenomena and textural changes occurring in that

* A Manual of General Pathology. By Joseph F. Payne, M.D., F.R.C.P., late Fellow of Magdalen College, Oxford; Physician and Joint Lecturer on Pathological Anatomy at St. Thomas's Hospital: Examiner in Pathology in the University of Oxford; late Examiner in Medicine to the Royal College of Surgeons of England.

process ; and appended is a very interesting chapter on a closely allied subject, viz., on fever, giving the more important theories as to its nature and causation, and enumerating its various types.

The retrogressive pathological changes, gangrene and nervous atrophy and the degenerations are next discussed ; then comes an important section containing chapters on hypertrophy, the laws of new growth, tumours—their etiology, classification and description. This section abounds with the latest information, and is well illustrated by a number of new and original woodcuts. From a strictly scientific standpoint we think this section would admit of some remodelling and improvement. The subject of hyperplasia seems to us to be dismissed in too short a paragraph ; though much of it will be found treated under repair after inflammation and in the laws of new growth.

With the description of individual tumours we have but little fault to find. The chapters on the pathology of the blood, which conclude the first portion of the book, are of much practical interest.

The second part of the book is excellent throughout, and commands our unqualified approbation. It is indeed a masterly summary of our present knowledge of the etiology of disease and is, moreover, delightful reading. The nature and action of poisons and ferments, and the specific contagia, are thoroughly discussed ; the various specific febrile diseases are scientifically classified and described from a historico-pathological point of view ; the chapters devoted to parasites and parasitism, to the general account of bacteria and their connection with disease, form an admirable review of what is known about these subjects, even in the light of the most recent researches. This section of the book bears the impress on almost every page of the author's wide knowledge and grasp of his subject, of an excellent judgment in his selection of the facts, as well as of perspicuity in the style of his statement and arrangement of them.

The numerous illustrations in the latter part of this section

are good and instructive, and there is a useful appendix of the methods usually employed in detecting micro-organisms in fluids, sputum and in tissues.

From the preface we learn that Dr. Payne set himself the task of writing a manual of general pathology that should serve as a good introduction to general medicine, and we think that task has been, on the whole, admirably performed. We have no hesitation in saying that the practitioner or student desirous of selecting such a work will find his wants well supplied in Dr. Payne's excellent manual.

LECTURES ON BRIGHT'S DISEASE.*

A BOOK of moderate compass containing all that is essential for the general practitioner to know of Bright's disease, and bringing the knowledge of renal pathology and therapeutics up to date, has been wanted for some time. This book of 290 pages meets the want. The author has long been known as an authority on everything pertaining to renal disease; and his views on renal pathology, and his methods of testing for albumen, are now accepted by those most competent to judge of such matters.

The book is divided into three sections. Section I. treats of general pathology and contains seven chapters, in which albuminuria, the pathology of dropsy, the pathological relations of tube casts, cardio-vascular changes, the pathology of polyuria, and of uræmia, and the retinal changes in Bright's disease, are ably and fully discussed. Section II. deals with the chemical and physical properties of the urine in health and disease, and Dr. Saundby manages to compress into one chapter of 49 pages an excellent account of this subject, and describes many new tests for sugar, albumen, bile, blood, and so on, and methods for the estimation of some of these.

* Lectures on Bright's Disease. By Robert Saundby. M.D. Edin. Bristol: John Wright and Co. London: Hamilton, Adams, and Co. 1889.

He recommends for urea estimation the simple instrument invented by Doremus, of New York ; this costs only two shillings and will undoubtedly prove a great boon to the practitioner. We were at first inclined to doubt the accuracy of this ureometer, but a more extended experience has shewn that with care and by observing certain precautions, taught by practice with it, the results can be made to agree with those obtained by Gerrard's apparatus. In describing the ureometer of Gerrard an error has crept in however ; instead of putting the hypobromite solution into the tube and the urine into the bottle, the urine should be put into the tube and the hypobromite into the bottle.

Section III. treats of Bright's disease and contains seven chapters, dealing with its history, classification, and etiology ; with the anatomy of the kidney, and various kinds of Bright's disease ; these are divided by the author into febrile nephritis, lithæmic nephritis, and obstructive nephritis. This is a simple and comprehensive classification, and is much easier to remember than those which some of us were taught fifteen or twenty years ago. The remainder of this section deals with the complications of chronic Bright's disease and with its treatment.

A marked and useful feature of this book is the copious bibliography which follows each chapter and which is well brought up to date. Dr. Saundby manages however in each chapter to give all the pith of the most important papers and thus saves the reader the trouble of referring to the papers themselves. Being, as is well known, well posted in foreign medical literature, especially German, he is able to furnish his readers with information from the original sources, not at second-hand, as is but too often the case with text-book writers who sometimes are either ignorant of German or too lazy to take the trouble of verifying quotations.

We would especially direct attention to the chapter on uræmia which contains a very good summary of recent works, and to the hints thrown out as to the rôle which poisons formed in the intestines may play in uræmia and in Küssmaul's coma. We learn from this that constipation should be carefully avoided in Bright's disease and in saccharine diabetes also.

This book meets a long-felt want and will, we believe, have as large a circulation as it deserves.

The type and paper are very good, and when necessary original illustrations are introduced into the text.

DIABETES: ITS CAUSE AND PERMANENT CURE.*

THIS is a book which claims to announce a great discovery, viz., the dependence of diabetes upon hereditary or acquired syphilis! It is translated into almost unreadable and quite unintelligible English, and the pretended discovery is unsupported by any conclusive facts or reasoning. The greater part of the contents consists of longer or shorter accounts of the various observations and experiments of others, which if they are really to be superseded by Dr. Schnée's views should have occupied much less space, while we should have seen his own "great discovery" as he repeatedly calls it, discussed in a more adequate manner. The practical conclusion is that diabetics are to be dieted much as at present and treated with "corrosive-sublimite albuminate," and *Chrome water* "from which the carbonic acid has been allowed to escape." No further details are given, and in the appendix of cases we only get such information as "the hot alkaline springs of Carlsbad (Dr. Schnée practises at this health resort), as well as an energetic application of my remedies, restored him permanently to a state of health." It is unnecessary to characterise this book; the "great discovery" must speak for itself.

* Diabetes: its Cause and Permanent Cure. By Emile Schnée, M.D. Translated from the German by R. I. Tafel, A.M., Ph. D. London: H. K. Lewis. 1889.

STEVEN'S PRACTICAL PATHOLOGY.*

THIS is an exceedingly useful little volume, and we think the author has done well in omitting illustrations, as it brings the cost of the book within the reach of all, and the student is encouraged to illustrate it from his own preparations. Moreover, one does not hesitate to leave an inexpensive volume, containing all the information necessary, lying about among the other apparatus for practical work, which is where it should be. The first part of the volume describes the methods of making *post mortem* examinations, and deals with microscopical *technique* generally. It is clearly written and quite up to date. The second part gives a short account of general and special morbid conditions and will, no doubt, prove of great value to the student in the *post mortem* room and pathological laboratory.

NEW INVENTIONS, DRUGS, ETC.

LION ESSENCE OF BEEF.—The recent observations of Dr. Fallon P. Wightwick (*The Lancet*, 1888, Vol. II., p. 1121) have sufficiently established the occurrence of lead poisoning from tinned foods, while more acute examples of irritant poisoning attributable to some tin salt have been several times reported; it is therefore very desirable that the medical profession should do all in its power to discourage the practice of preserving articles of diet in tins instead of bottles. Unfortunately many articles used by the sick have been until recently so preserved, but a great reform has recently been effected in this matter, so that there is no difficulty in procuring invalid foods preserved in glass. The Lion Essence of Beef is one of these and deserves all the success that it will no doubt obtain.

Miscellany.

THE PRAYER-BOOK ON QUACK MEDICINE.—A Yorkshire man was very ill, but doggedly opposed to spending a penny upon the doctor. He had found, he thought, a more excellent way, and was accordingly conducting, with very alarming results, some experiments upon his constitution. "My dear Mrs. Blank," said the Vicar to the obstinate parishioner's wife, "your husband is really killing himself with those pills. It is a case of suicide—a downright sin." "Yes, sir," replied she, "and many's the time

* Practical Pathology : An Introduction to the Practical Study of Morbid Anatomy and Histology. By J. L. Steven, M.D., Demonstrator of Pathological Anatomy in the Western Infirmary of Glasgow, etc. Glasgow, 1887.

I've prayed against it in the Church service." "In the Church service?" said the Vicar doubtfully, "You mean when we pray for the sick?" "Oh, no, sir," was the reply; "I mean when we always say—in the Litany, isn't it?—'from all false doctoring, good Lord deliver us!'"—*Cornhill Magazine*.

SEEING OURSELVES AS OTHERS SEE US.—The *Canadian Practitioner*, a journal published in Toronto, Canada, prints the following paragraph, evidently as an illustration of the manners of modern English society. We can't say that "English composition" seems to have been a very strong point with "the other fellow":—Recently in England the following episode took place at the first meeting of the newly elected councillors for Warwickshire. One of the councillors elected was a man of very inferior education, although possessing a certain amount of ability. English composition was not his forte. One of his fellow councillors said to him: "Well, Mr. Jacobs, it is something quite incomprehensible by my intellect the cause of the selection of a man of your inferior abilities by the people of Warwickshire to occupy a chair in this august assembly." "Vell sair," said Mr Solomon Jacobs, "I tink I haf ability. My hedification is not wery great, but, sair, of I peent able to pe von werry gut councillor hi vill vaccinate my seat!"

New Books, etc., Received.

- The Essentials of Physical Diagnosis of the Chest and Abdomen. By J. WALLACE ANDERSON, M.D. Glasgow: James Maclehoose and Sons. 1889.
- The Practice of English Medical Men in Switzerland. By COESTER BROTHERS, Geneva: 1889.
- A Guide to the Instruments and Appliances required in various Operations. By A. W. MAYO ROBSON, F.R.C.S. Eng. London: J. and A. Churchill. Leeds: Goodall and Suddick. 1889.
- A Students' Text-book of the Practice of Medicine. By ANGEL MONEY, M.D. Lond. London: H. K. Lewis. 1889.
- Cosmic Evolution, being Speculations on the Origin of our Environment. By E. A. RIDSDALE. London: H. K. Lewis. 1889.
- The Futility of Experiments with Drugs on Animals. By EDWARD BERDOE. London: Victoria Street and International Society for the Protection of Animals from Vivisection. 1889.
- Report on the Health of the Borough of Sutton Coldfield for the year 1888. By A. BOSTOCK HILL, M.D. Birmingham: George Jones and Son.
- On the Relation between the General Practitioner and the Consultant or Specialist. By L. DUNCAN BULKLEY, A.M., M.D. Chicago: 1889.
- Transactions of the American Dermatological Association Official Report of the Proceedings of the Association. By G. H. TILDEN, M.D. Boston: 1888.
- The Treatment of Lateral Curvature of the Spine. By BERNARD ROTH, F.R.C.S. London: H. K. Lewis. 1889.
- The Bacteria in Asiatic Cholera. By E. KLEIN, M.D., F.R.S. London: Macmillan and Co. 1889.
- Leprosy an Imperial Danger. By H. P. WRIGHT, M.A. London: J. and A. Churchill. 1889.

NOTICE.—All Communications should be addressed to the Publishers, Messrs. Hall and English, 71, High Street, Birmingham.

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ORIGINAL COMMUNICATIONS.

NON-TUBERCULAR PULMONARY CAVITIES.*

BY ARTHUR FOXWELL, B.A., M.B. CANTAB., M.R.C.P.,
ASSISTANT PHYSICIAN TO THE GENERAL HOSPITAL.

IN this evening's paper I purpose speaking of the Origin and Treatment of Cavities in the Lung produced otherwise than by the Bacillus of Tubercle. My paper naturally divides into two parts—the former relating to ætiology and the latter to treatment.

First then, as to the causes: they may be grouped under these heads:—1. Inflammations originating within the lungs. 2. Inflammations originating outside the lungs. 3. New growths. 4. Parasites. 5. Injuries. 6. Emphysema.

1. Of *Inflammations arising within the Lungs* perhaps *Pneumonia* should occupy the first place. Here the primary outburst may be of so acute a nature as to proceed straightway to purulent disintegration, or, and this more commonly, the greyly hepatised lung fails to resolve and gradually transforms into pus. The former is the more hopeful variety, but Jurgensen states that the number of reliable observations are too small to form a positive opinion. Lænnec, for instance, says that out of 20 cases he had only 2 deaths; whereas Huss lost 12 out of his 20 cases.

* A paper read before the Midland Medical Society February 20th. 1889.

The latter form is well-exemplified in a private patient whom I had the opportunity of watching for nearly two years. One year before I saw him, when in a debilitated condition, he contracted an acute pneumonia which confined him to his room for two months. He continued an invalid for seven months longer when one morning he suddenly expectorated a large quantity of extremely foetid pus. Five months later, that is fourteen months from the onset of the pneumonia, I first saw him; he then was bringing up some 10 ozs. of thin sero-purulent offensive matter, three or four ounces at a time, with fits of most violent coughing. I found his right base to be deficient in resonance, movement but little lessened, breath sounds somewhat bronchial with large sticky crepitations. Here were no signs of lung cavity, but as Drs. Symes Thompson and Theodore Williams who sent him to me had both informed me of the existence of such, I concluded that they were at present filled with secretion, as indeed afterwards proved to be the case. At the extreme left base crepitations were also heard, and this, in my opinion, negatived operative procedure concerning which he had consulted me. His condition varied considerably, sometimes improving for months together, and it was only during the last week of his life that he was entirely confined to his room. He died with subacute septic symptoms.

But cavities may result from *Broncho-pneumonia* as well as from the acute fibrinous form. Such is the case recorded by Douglas Powell and R. W. Lyall in *The Lancet*, Vol II., No. 1, 1880.

A man, 49, had bronchitis in December, 1878, and in February, 1879, pleuro-pneumonia with foetid expectoration. He improved and then relapsed, so that in July, 1879, he was admitted to Middlesex Hospital. The lower lobe of the right lung was consolidated with a central excavation at the level of the angle of the scapula. There was hectic and diarrhoea, with about one pint of expectoration in the twenty-four hours. The lung was incised and drained with almost complete cessation of cough and expectoration as an immediate result. But in about

three weeks some return of foetor in the breath and discharge occurred, and he died fifty days after the operation from pleuropneumonia of the opposite lung. At the *post mortem* several inter-communicating cavities were found and the lobe was firmly adherent throughout. The drainage tube passed through the eighth space into a contracted cavity which opened into the main cavity by a short dilated bronchus. The tube-containing cavity in contracting had partially obstructed the end of the tube, thus causing insufficient drainage, with death probably from septicæmia.

The various varieties of non-tubercular *Fibroid Phthises*, such as miners' lung, grinders' rot, syphilis, generally produce, sooner or later, bronchiectatic cavities; these usually, but not always, occur at the base: they are very slow in progress and have but small tendency to enlarge by excavating the lung parenchyma; their walls are smooth and, to some extent at any rate, lined by bronchial mucous membrane. Perhaps the most painful symptom connected with these cases is the extreme foetidity of the sputum.

A case in point is that of a man admitted into Brompton Hospital under Dr. Williams with his right lung riddled with bronchiectatic cavities, and quantities of intensely foetid expectoration which came up with suffocating paroxysms of coughing three or four times a day, at which times the atmosphere of the passage outside the door of his ward was almost unbearable, notwithstanding every effort at disinfection. The man's condition was so disgusting that surgical interference was at once sought, and Professor Marshall incised in the fourth right space just without the nipple over what appeared to be the largest cavity and inserted a drainage tube into a cavity the size of a duck's egg. The result was astonishing; the sputum diminished one-half and the foetidity almost entirely vanished, while the discharge from the cavity was but slight. But the man died three weeks later with septicæmic symptoms.

In the absence of the pathologist the *post mortem* examination was made by myself. I found the right pleura almost entirely

adherent, especially in the latero-anterior region where the bronchiectases chiefly lay. The drainage tube passed straight into the outer and lower portion of the largest cavity which was at least double the size of any other. This it completely drained. There was very little retained pus in any cavity, and what there was had no special fœtor. The lung was greatly fibrosed throughout.

In the cerebellum, centrally situated with its long axis transversely horizontal, was a cavity the size and shape of a duck's egg containing odourless pus and lined by a wall at least one-sixteenth of an inch in thickness. This was evidently of long standing and probably quite unconnected with the lung mischief. The cerebellar tissue around it and the brain substance generally showed no signs of inflammation or disorganisation to a naked eye examination.

This case is interesting as an instance of the advantage of chronicity in rendering the operation of pneumonectomy a comparatively trivial procedure owing to the firm adhesion of lung and chest wall. It is also noteworthy that the drainage of one cavity—and that one by no means the lowest in situation, neither when the patient was supine nor erect—practically did away with the fœtor. To those of us who have witnessed the infinite distress caused to both friends and patient by this symptom this fact must call for serious consideration and make us debate whether external drainage is not justifiable for the relief of the putridity alone.

Foreign Bodies inhaled through the larynx are not an infrequent cause of pulmonary cavity; these naturally occur nearly always in one or other lower lobe.

Dr. Strange, of Worcester, records an interesting case in *B. M. J.*, Vol. IV., 1887, p. 1145. The patient was a woman, 23, of fine physique, but with a history of scrofulous abscesses of hands and feet in infancy. On Feb. 17, 1887, several teeth were extracted under chloroform and the account of the operation given Dr. Strange by a friend who went with her to the dentist left no doubt in his mind that a stump of a tooth had gone into

the trachea. A few days afterwards a troublesome cough arose with mucopurulent expectoration; these symptoms continued till June 15th when she was admitted to Worcester Infirmary. She had never been completely laid up, nor had she lost much flesh, but her strength was failing and her cough and expectoration increasing. Some rings of cartilage, horribly offensive, had been found in her sputum. Her cough was now almost incessant, and she spat up two to three pints of stinking expectoration, containing broken down lung tissue, daily. She could not lie down and had bed-sores. There was a hectic varying from 101.4 to normal. On the right side there were coarse râles from the upper third of the scapula to the 9th rib posteriorly, with dulness, as well as tenderness over the 3rd, 4th, and 5th ribs anteriorly but with no indication of pointing or bulging. The condition of the rest of the right lung and the whole of the left was fair. On July 18th Dr. Strange inserted an aspirator needle in the 9th space one inch posteriorly to the axillary line; a drop of pus appeared. Thereupon a large curved trocar was pushed in eight inches towards the 5th interspace in front. Most offensive pus now came in large quantity; a drainage tube was inserted through the canula of the trocar and the canula then withdrawn. The dressing was carbolic tow: there was no escape into the pleura. In a few days the gangrenous odour was quite gone and the expectoration became very slight. Sep. 12th she was discharged cured. On Oct. 29th she had gained two stone. Her right lung appeared to be normal except for some dulness at the base. There was some dyspnoea and irritative cough on exertion.

This almost complete recovery from such a terrible condition illustrates forcibly the immense defensive power which healthy lung tissue has and enables us to understand why it is that the bacillus of tubercle is apparently so selective in its choice of victims.

2. *Next, concerning cavities due to inflammations arising outside the lungs.*

Empyema is by far the commonest cause of these. In this

connection a gentleman I saw in 1885 with Dr. Bernays, of Solihull, is of interest. On May 3rd he took cold at a wedding; on the 6th Dr. Bernays saw him and found crepitations at both bases, but these were more marked on the left side where there was also dulness and tubular breath sounds. T. 103, P. 120, R. 30. (8 p.m.) On the 7th one-third of the left lung appeared to be solid. On the 9th two or three ounces of very fetid pus were coughed up. On the 10th Dr. Bernays and I saw him together and we found the signs not well marked, the dulness diminished, being now but slight, the tubular breath sounds nearly gone. There had been but little movement but this was now good. The temperature was a hectic one and perspiration great; pulse very feeble, 120; respiration 30. In fact the symptoms were far in excess of the physical signs. The diagnosis which had been most obscure was now obvious, and neither of us had any doubt of its being "empyema rupturing through the lung." As fetid pus in small quantities was still being coughed up and the patient's general condition a very serious one immediate external drainage was advised. This was refused, and a week's grace requested, at the end of which time he was better in every way—temperature lower, expectoration less, sweating almost gone, dulness lessened, and sticky crepitations indicative of the gliding of two lymph-coated pleuræ against one another were heard almost to the base of the lung. I again advised external drainage, but now far less urgently. The outlook either way seemed long and troublesome. He was 54, a chronic bronchitic, with considerable emphysema and granular kidneys. If he were drained the sinus would be probably months in closing and there was the chance that he might continue to go on improving as at present; so I did not press my advice. Three weeks later I saw him again and never was I more thankful that my advice had not been taken. Though still feeble and occasionally expectorating somewhat offensive material he was wonderfully improved, was, in fact convalescent, and a month later Dr. Bernays could find no sign except that of slight deficiency in the percussion note. I saw him the other day returning from

business as brisk as a bee and looking the picture of health. This was evidently an instance where nature did better alone than she would have done with surgical aid. This is an instance too of a progress which one not so rarely watches in children, but in an adult, unfortunately, most seldom, and in a man such as our patient was, one which should barely be admitted as possible when discussing treatment.

Another cause is a *chronic pleurisy* which may slowly invade the lung producing fibrosis of this with consequent bronchiectasis or else fibroid material which is very unstable and apt to break down. This is not an uncommon condition ; to a slight extent it obtains after most pleurisies of long duration, though far less often observed now than in former days when patients were allowed to go about with fluid effusions for whose removal no attempt had been made. I remember one well-marked case under the care of Dr. Rickards where the pleura was a quarter to half an inch in thickness and the neighbouring lung quite carnified and riddled with dilated bronchi. In such cases the cavernous condition seldom calls for treatment as the lung has previously become practically useless and the expectoration is scanty or absent.

Subphrenic Abscess is a not uncommon cause of lung cavity from rupture of its contents through the diaphragm and the adherent lung into a bronchus. These are perhaps oftenest due to abscess of the liver, but they arise also in the course of gastric and duodenal ulcer, perityphlitis, abscess of the spleen, and purulent peritonitis occurring from other causes. A well-marked instance of causal *perityphlitis* is a case I had charge of when acting as house-physician at St. Thomas'. A man was admitted expectorating pus and died soon after. The whole of his right lumbar region was one large sinus of pus bounded internally by the colon. This sinus led to a large subphrenic abscess and thence into the lung, a large portion of the lowest lobe of which was converted into a ragged abscess cavity.

Abscesses of the Spleen are more apt to occur in malarial countries than in England ; yet, even in Bengal, Dr. Kate Bosanno Chowdhoo, who relates the following case, states that

out of 30,000 cases of malaria which he had personally treated he only saw three with splenic abscess. One of these was a man of 40, who for some months had had a swelling in the splenic region with occasional pyrexia and lately had spat up blood and pus. The spleen was found to be large; there were crepitations in the left lung and the right lung was normal; the cough was only slight (and hence, says Dr. Chowdhoozy dogmatically, it could be neither phthisis nor bronchitis). Abscess of the spleen was diagnosed, and gallic acid, gr. 5; dil. sulph. ac., ℥ 10; extr. ergot liq., ℥ 20 was given thrice daily. The expectoration gradually lessened, but after a while "pointing" was observed in the splenic region; the abscess was then opened through the abdominal wall, 10 ozs. of pus and some splenic débris came away, and fourteen days later the man was discharged cured.

Pyæmia and the Specific Fevers not seldom produce lung cavities, but these are often only *ante-mortem* occurrences and multiple, so that little can be done for them.

Dr. Macgregor records a typical instance in the *British Medical Journal*, II., 1887, p. 1219.—A boy of 10 fell into a sewer; for ten days thereafter he had malaise and, for fourteen more, typhoidal symptoms; then congestion of the lungs came on with, four days later, pulmonary gangrene and left pneumothorax. Three days after this he died. The temperature had varied from 96 to 106·8. The right lung was the site of many circumscribed abscesses from the size of a pea to that of a walnut. The left lung was collapsed, and towards the axillary base a small punched-out perforation from the giving way of a necrotic abscess was present.

But that we should not always regard such pyæmic abscesses as hopeless I think the following case shews.

Some time ago I saw in consultation with Dr. Wade, Mr. Taylor, and Dr. Ward, a lady who six weeks previously when at the theatre was seized with alarming uterine hæmorrhage, for which a sponge tent was temporarily inserted. The next day this was removed, and the uterus swabbed out with perchloride of iron. A few days later one or two severe rigors

occurred, and a tumour was felt by vaginal examination on the left side of the uterus. Mr. Taylor therefore explored, and found a collection of reddish serum on the left side of the pelvis, which was held in this situation by adherent omentum. He liberated this, cleaned the pelvis, and removed the appendages. There was considerable improvement for about ten days, when the rigors returned, and the temperature assumed a decidedly septicæmic character and signs of lung involvement arose. When I saw her later on there was considerable dulness—but by no means absolute—up to the level of the eighth rib in the mid-axillary line, this dulness joining the heart dulness anteriorly and reaching round, at a somewhat lower level, over the posterior surface of the left chest. Friction and crepitation sounds were heard over the whole of this dull area, the crepitations also extending into the axilla and above the nipple. There was a very troublesome dry cough and the breath had constantly the fœtor of retained pus to a slight degree. The breath sounds were feeble over the whole lower lobe but nowhere absent nor bronchial. The right lung appeared healthy and there was no indication of mischief elsewhere. The diagnosis at best could but be a doubtful one. That pleuro-pneumonia of a low type, with septicæmic symptoms existed was evident. The friction sounds heard over the dull area negated an accumulation of fluid but pleuræ coated with a low form of curdy lymph might perhaps have accounted for the whole condition. But the peculiar fœtor of the breath and its accompanying dry cough pointed somewhat strongly to pulmonary abscess, and the balance of opinion lay in that direction. The localisation of the position of the abscess to any particular part of the lower lobe was an impossibility, though for my own part I certainly expected it to be in the dull area, and indeed hoped to find it by a puncture through the eighth space in the mid-axillary line; but at the *post mortem* I found a cavity the size of a large walnut occupying the extreme apex of the lower lobe and filled with grumous material; this corresponded to the *posterior* axillary line and the 8th space—that is, well above the line of dulness. Below this, the lower

lobe was in a condition corresponding to the prune juice stage of pneumonia. There was some lymph on the pleura, but otherwise the chest organs were fairly healthy and the only other evidence of pus was a few drops on one of the ovarian stumps in the pelvis.

This abscess was decidedly circumscribed, had indeed a definite wall to be incised and I cannot help believing that if it had been opened during life there would have been a fair chance of saving the patient's life.

3. *Of New Growths.* I need say little concerning carcinoma and sarcoma; whether they break down and form cavities or not makes but little difference to the treatment.

4. But it is very different with regard to *parasites*. *Prima facie* an hydatid cyst if recognised before its rupture and evacuated should give as good result in the lung as in the liver. But the reported cases are as yet very far from attaining this favourable position. If treatment has to come after rupture, affairs are much more gloomy.

A man between 30 and 40 whose brother died in the General Hospital of suppurating hepatic hydatid, has been an out-patient of mine for over three years and has also been under my care inside the hospital and at the Jaffray Hospital. When he first came he had already had lung symptoms for four years evidently referable to these. Both his lower lobes were full of crepitations, there was considerable dulness and the breath sounds were feeble. His expectoration, apart from the cysts, several of which he brought up on the average once a month, was purely bronchitic and due to the irritation set up by these; but latterly it has become muco-purulent and at times there are signs of small cavities in both lungs, the upper lobes being now also involved. His two great troubles are an exasperating cough and constantly increasing dyspnoea, the mal-oxidation resulting from which is slowly enfeebling him and degenerating his tissues generally.

Though his sputum has several times been examined for bacilli and though he has been lying alongside phthisical patients for

months together at the Jaffray Hospital, yet these have never been found. Such cases give one cause for reflection. Lung tissue more hopelessly *hors de combat* as to resisting an invader can scarcely exist. Yet in the long course of seven or eight years the invasion has never occurred. This surely is a testimony to the pre-eminent importance of the factor, heredity.

5. *External injuries* involving the lung may produce cavities. Schneider of Königsberg has successfully resected a rib and portion of lung for gangrene of the latter produced by a gunshot wound. But the conduct of these cases is almost entirely surgical and I will do no more than mention them.

Lastly, the bullæ of *emphysema* occasionally arrive at a size which not improperly enables them to be designated as cavities. They are not without importance for the rupture of a bleb may lead to sudden pneumothorax in an otherwise perfectly healthy individual. It is by no means necessary for this rupture to occur only at times of exertion. There is a patient at the General Hospital at the present time under the care of Dr. Wade who met with this accident whilst quietly pursuing his avocation in a sitting posture; this perhaps accounts for the comparative mildness of the onset as the rupture was not enlarged by forcible respiration. His family and his own personal history were excellent. He had done a good deal of professional running, and this may be the cause of the emphysema. The prognosis is generally good in these cases.

(*To be continued.*)

THE RELATION OF ALVEOLAR CLEFT PALATE TO THE INTERMAXILLA AND ITS DEVELOPMENT.*

BY BERTRAM C. A. WINDLE, M.A., M.D. DUBLIN,
PROFESSOR OF ANATOMY IN THE QUEEN'S COLLEGE, BIRMINGHAM.

1. Albrecht, Prof. Dr.—Die morph. Bedeut. der seitlichen Kieferspalt.
u. s. w.—*Zool. Anzeiger*, 1879, 207.
2. „ Sur les 4 os maxillaires, etc.—*Soc. d'Anthrop. de Brux.*, 1883.
3. „ Ueb. die morphol. Bedeutung der Kiefer-Lippen-u. Gesichtspalten. *Langenbeck's Arch*, Bd. xxi., Hft. 2.
4. „ Same title,—*Centralbl. f. Chirurg.*, 1884, No. 3.
5. „ Ueb. den morph. Sitz der Hasenscharten Kieferspalt.—*Biolog. Centralbl.*, Bd. vi., No. 3.
6. „ Zur Zwischenkieferfrage.—*Fortsch. d. Med.*, Bd. iii., No. 14.
7. Kölliker, Dr. Th.—Ueb. das os intermaxillare des Menschen u. die Anat. des Hasenscharte. u. s. w.—*Nov. Act. Leop. Car. Ak. der Naturf.*, Bd. xliii., Halle. 1882.
8. „ Ueb. die einfache Anlage der Zwischenkiefers.—*Anat. Anzeig. Jahrg.*, iii., S. 572.
9. Turner, Prof. Sir Wm.—The relation of the alveolar form of Cleft Palate to the Incisor Teeth, etc.—*Journ. of Anat. and Phys.*, xix., 198.
10. „ The Dumb-bell-shaped bone in the palate of Ornithorhynchus.—*Ib.*, p. 214.
11. Biondi, Dr. D.—Lippenspalte u. deren Complicationen.—*Virchow's Archiv.*, Bd. cxi., Hft. 1, S. 125.
12. „ Ueb. Zwischenkiefer.—*Anat. Anzeiger. Jahrg.*, iii., S. 577.
13. Warynski, Dr.—Contrib. à l'étude du bec-de-lièvre simple et complexe. *Virchow's Archiv.*, Bd. cxii., Hft. 3, S. 507.
14. Broca, A.—Sur le siège exact de la fissure alvéolaire dans le bec-de-lièvre, etc.—*Bull. de la Soc. Anat. de Paris*, 1847, p. 255.
15. Gilis, P.—Os intermaxillaire quadruple.—*Ibid.*, 1888, p. 372.

THE view that the intermaxillary bone of either side becomes ossified from a single centre, is one which has been until lately accepted with little doubt as to its accuracy. Callender,† it is

* The substance of this Review was delivered to the Biological Section of the Birmingham Philosophical Society.

† On the so-called Serpent Teeth. St. Bartholomew's Hospital Reports, viii., 149.

true, speaks of the intermaxilla as a bone which "may be said to have two parts, one central, the other lateral." The central forms "the plate of bone on the inner side of the central incisor socket and the posterior wall of the incisor sockets below and internal to the course of the incisor branches of the dental nerve." The lateral portion develops "in the lateral plate of the nostril, where inflected by the growth of the incisor process of the superior maxilla and forms a process, which ascends under cover of the nasal portion of the upper jaw." Again he says, "these bones coalesce to form, on either side, the bone which supports the incisor teeth—(1) the central and (2) the lateral ossifications of the intermaxilla and (3) the incisor process of the superior maxilla." Callender's views will be found at length in the *Philosophical Transactions*.^{*} Of late, however, the view that each intermaxilla ossifies from two centres has found its chief exponent in Prof. Albrecht, a list of whose chief papers on the subject will be found at the head of this review (1—6.) His theory is based upon the line which is taken by the fissure in cases of cleft palate extending through the alveolar process. It is well known that in such cases the line of fissure does not, save under exceptional conditions, occupy a central position. Such median fissures may exist as a consequence of the presence of a tumour† preventing the closure of the palate, or of the absence of the ethmo-vomerine plate, septum nasi and premaxillary bones,‡ but they are of very rare occurrence. Until recently it was held that the lateral position of the anterior part of the cleft was due to its passing between the intermaxilla and superior maxilla, that is to say through the maxillo-premaxillary suture. In 1879, however, Prof. Albrecht in examining the skull of a foal affected with cleft palate, found that so far from taking the above-mentioned direction, the fissure passed through the intermaxilla itself dividing it into two portions, a mesial, *processus palatinus* and a lateral *p. nasalis*. A further examination of other animal and human crania affected with the same

^{*} 1869, p. 163. † Lichtenberg. *Trans. Path. Soc.*, xviii, p. 250.

‡ Bland Sutton. *Trans. Odonto. Soc.*, Gr. Britain. 1887.

congenital lesion shewed that this condition of things obtained widely, and moreover, led to the observation that the fissure had on *both* sides of it, in many cases an incisor tooth. In seeking to explain this fact, Albrecht formulated the theory that the intermaxilla was developed from two separate centres of ossification, one mesial, which he named *endo-gnathion* and one lateral *meso-gnathion*. The cleft passes between these two portions, that is, through the endo-mesognathic suture. In support of this theory Albrecht brings forward the condition of the bones of this region in *ornithorhynchus*. Here, there is on either side an intermaxillary bone articulating with nasal and superior maxilla and coming forward to form the beak. Besides these, and lying between them is a bone or a pair of bones of dumb-bell-shape, having a naso-palatine canal on either side. This central portion Albrecht looks upon as consisting of the two endo-gnathous or mesial-intermaxillæ permanently separated from the meso-gnathous or lateral intermaxillæ. There is, however, considerable diversity of opinion regarding the morphology of this dumb-bell-shaped ossicle. Rudolphi,* Meckel,† Owen,‡ and Turner (10) agree with Albrecht's view, while Flower,|| Macalister,§ and in another work, Owen¶ apparently, assign to it a different value. Sir William Turner's observations above alluded to, appear to leave but little doubt as to the correctness of the view which he and Albrecht maintained.

Sir William Turner (9) has carried out an independent investigation into the correctness of Albrecht's assertions with regard to the relation of alveolar fissure to the incisor teeth. The specimens which he examined numbered fifteen and to them may be added forty-nine described by Th. Kölliker (7). "These specimens," says Sir William, "resolve themselves into two groups—*a*, one in which no precanine tooth intervened between the canine and the cleft, and in this group were thirteen speci-

* Quoted by Meckel *ut. infra*. † *Traité Gén. d'Anat. Comp.*, t. iv., p. 274.
 ‡ *Todd's Cyclop. Art. Monotremata*, vol. iii., 374. || *Osteology of Mammalia*,
 p. 217. § *Morphology of Vertebrates*, p. 207. ¶ *Cp. Anat. of Vertebrates*,
 vol. ii., p. 322.

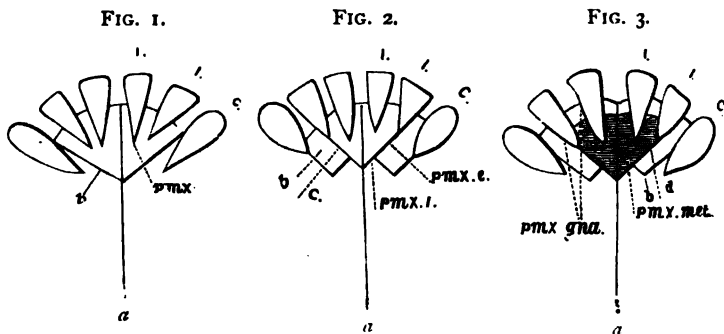
mens; *b*, one in which a precanine was situated between the canine and the cleft, and this consisted of fifty-one specimens. Obviously, therefore, much the larger number of persons with the alveolar form of cleft palate possess a tooth in front of the canine, which is cut off from the incisor series of teeth by the gap in the border of the jaw." The author just quoted agrees with Albrecht in considering this precanine to be a third incisor. Mention must here also be made of certain furrows and clefts which the two last mentioned authors have described, situated in front of the maxillo-premaxillar suture and regarded by them as persistent remains of the intra-incisive or endo-mesognathic suture.

Dr. Th. Kölliker (7), the most persistent opponent of the dual origin theory, in the first enumerated of his papers, pointed out that the existence of two centres on either side had not been demonstrated; nor does he regard the intra-incisive clefts as affording any definite proof. These fissures had been mentioned by Humphrey.* "There are many fissures which extend to some depth in the foetal and young bones, but we must not think that these are necessarily the indications of its having been developed from several centres." The controversy has recently been reopened by a valuable and laborious memoir by Biondi (11) in which definite embryological evidence is brought forward for the first time. As regards cleft palate he concludes 1, that in many cases in mammals the *sutura incisiva* is visible external to the fissure. 2, That incisor teeth are found external as well as internal to the cleft. 3, That supernumerary teeth often coexist with cleft palate. 4, That the cleft is bounded externally by the *processus nasalis*, and internally by the *processus palatinus* of the intermaxillary bone.

Turning now to his embryological observations, we learn that he has been able to demonstrate both in human and animal embryos the existence of two ossific centres for each intermaxilla. One of these appears in the neighbourhood of the maxillary process, the other in that of the inner nasal process. He proposes

* The Human Skeleton, p. 284.

to name these respectively the *gnathogenous* (γνάθος, cheek) and *metopogenous* (μέτωπον, forehead) centres. Thus far then he is in agreement with Albrecht, but he holds a different view as to the position of the centres and the portions of bone formed by them. The gnathogenous centre, in his opinion, lies at once external and anterior to the metopogenous. The relations of each to the fully formed bone will be best understood by a reference to the subjoined diagrams which explain the views held by Goethe, Albrecht, and Biondi.



Palate, showing bones and fissures according to Goethe, Fig. 1; Albrecht, Fig. 2; Biondi, Fig. 3. l. l., Incisors; c., Canine. a, Sutura palatina; b, sutura incisiva; c, sutura interincisiva; d, sutura inter-alveolaris; pmx., premaxilla; pmx. e and i, do. externa and interna; pmx. met. and gna., do. metopogenous and gnathogenous.

These diagrams shew also much more clearly than any description in words could do, the portions of the intermaxilla which Albrecht and Biondi respectively consider to be formed from the two centres. The gnathogenous portion of Biondi is the first to appear, shortly after the closure of the palatine plate. From the point at which it first appears it grows upwards to form the ascending nasal process, and downwards to form the anterior border of the alveolus. Externally it unites with the superior maxilla and internally with its fellow on the opposite side. The metopogenous intermaxilla forms the hinder wall of the alveolar process and unites with the body of the bone in a frontal not a sagittal direction. Thus we have the following positions for the palatine

sutures:—1, *Sutura palatina* runs between four pairs of bones, viz.: palate, superior maxilla, metopogenous and gnathogenous intermaxilla. 2, *Sutura incisiva* runs between the metopogenous intermaxilla and the superior maxilla if the gnathogenous has no bony process; if it has, then, the suture runs between gnathogenous and metopogenous on the one side and superior maxilla on the other. 3, *Sutura intervalveolaris* runs between metopogenous and gnathogenous intermaxilla. Failure to coalesce of these processes may lead to the presence of clefts of two degrees involving more or less of the face. 1, *Hare lip and cleft palate*, which is due to a want of union between the inner nasal process on the one hand and the outer nasal and superior maxillary processes on the other. 2, *Facial cleft*. (Schräge Gesichtsspalte.) The cleft which passes upwards into or close to the orbit is due to a still more extensive separation of the same processes. In this case as in the former, a palatine cleft may pass between the metopogenous and gnathogenous intermaxilla, the former then appearing on the surface of the face. The latter cannot form the anterior part of the incisor sockets, which it consequently falls to the part of the former to do. Not being hindered in its growth by the gnathogenous, the metopogenous bone assumes an unusual size, and becomes firmly connected with the vomer, especially in double cleft palate, where it forms the mesial projecting piece. It may here be noted that the position taken up by Biondi differs very markedly from that of Callender (op. cit.), which has up till now been generally accepted, namely, that it is the incisor process of the superior maxilla which passes in front of the intermaxilla and binds it back so as to prevent its projection.

Warynski's views (13) which are somewhat different from those already described, may be thus summarised—1, Certain peculiarities of congenital fissure of the palate teach us that the nasal apophysis of the intermaxilla develops from the external nasal process, and the body from the internal. 2, The ossification of the intermaxillary bone takes place by two centres:—a, One which appears at the posterior and external limit of the internal frontal

process, and which contributes to the ossification of the nasal apophysis of the intermaxilla, its external surface, the anterior walls of the alveoli of the incisors, and the posterior wall of the socket of the lateral incisors; *b*, a second centre which takes part in the formation of the incisive canal and the posterior wall of the socket of the central incisor. 3, In certain exceptional cases the external nasal process may ossify independently from the internal, and in such cases a suture is present, separating the nasal apophysis from the body of the intermaxilla. 4, The endo-mesognathic suture of Albrecht exists constantly during a certain period of the evolution of the intermaxilla. 5, This suture is the result of the contact of the two centres above mentioned. 6, The incisive suture in man divides the alveolus of the lateral incisor into two unequal parts, one being formed by the superior maxilla, the incisors thus not being limited to the intermaxilla. 7, Congenital fissure on the palatine aspect is always disposed in the direction of the incisive suture, and divides the alveolus as well as the follicle of the incisor tooth. 8, The same fissure on the external surface of the maxilla separates most frequently the body of the intermaxilla from its nasal apophysis, which remains attached to the superior maxilla. 9, In the case of fissures separating the nasal apophysis of the intermaxilla, the ossification of the process takes place by a supplementary centre, the body preserving its two primitive points. 10, The suture of Albrecht may co-exist with the congenital fissure of the palate and is then internal to it. 11, In the temporary dentition the alveolar fissure passes always between the two lateral incisors, of which one is supernumerary; in the permanent the position of the tooth is variable. 12, In alveolar fissure the incisor tooth situated on the maxillary side belongs to the maxilla and not to the intermaxilla. 13, In dogs, amongst which the incisor fissure divides the canine socket into two parts, the congenital fissure passes between two canines, of which the supernumerary is placed on the side of the intermaxilla. 14, The supernumerary lateral incisor in the temporary dentition is found invariably in all cases of simple uncomplicated hare-lip.

Broca (14) believes that common complex cleft palate separates the median and lateral incisors. When it is bounded by the canine and by one incisor the lateral incisor is generally absent, and the median is that which lies on the mesial side of the fissure. In bilateral cleft palate the bony tubercle generally carries two incisors; when it bears four the two lateral are often supplementary, the precanine incisor existing at the external border of the fissure. It is also possible that some cases where the fissure passes between the canine and the two incisors of that side are explained by the atrophy of the lateral incisor and the existence of a supplemental. All the facts connected with the position of the fissure are, he thinks, best explained by the theory that four centres form the intermaxillary bones. Finally, it may be mentioned that, in his opinion, cleft palate may perhaps often be caused by a defective length of the external nasal centre.

In opposition to the views of all these writers, Kölliker, in his latest paper (8), still maintains his view as to the single nature of the intermaxilla of each side. In the pig he states that he has been able to establish the existence of a single centre. And all clefts or fissures in the intermaxilla he regards as of no morphological significance. In a demonstration before the annual meeting of the Anatomische Gesellschaft in 1888 Biondi (12) brought forward further evidence in favour of his view. A very interesting specimen has been described by Gilis (15). It was taken from a foetus of six months' gestation and shows the persistent intermaxillary sutures, the four bony segments being still separated by lines of hyaline substance. It may be noted that the bones occupy the positions described by Albrecht and not those of Biondi.

From what has been stated it will be seen that there is a strong force of opinion on the side of the view that each intermaxilla ossifies from two portions, and the case last cited proves at least that it may do so. It may, however, reasonably be asked whether, arguing from the cases of other facial and cranial bones, there may not be a considerable diversity, even under normal

circumstances, in the method of ossification of the intermaxilla. In the superior maxilla itself, Béclard and Humphrey have drawn attention to the variable number of ossific centres present. The malar may be developed from two centres and the resulting portions remain distinct throughout life. There is great diversity of opinion amongst anatomists as to the exact number and position of the centres for most of the bones of the skull. And finally, every Wormian bone has its own centre of ossification. Again, the premaxilla in man is a bone which is undergoing regression. Of this there can be little doubt for many reasons which cannot here be entered upon, but which will be found in a paper which I published in conjunction with my colleague, Mr. Humphreys, on "Man's Lost Incisors."* Now as structures in a condition of regression and gradual disappearance are precisely those in which we expect to meet with variations most commonly, it need create no surprise if the number of centres in the intermaxillary bones should vary in number in different instances.

Lastly, it should be remembered that many of the observations upon which the dual theory has been founded relate to cases of cleft palate. But valuable as teratological conditions undoubtedly are as an assistance to embryological conclusions, their use must not be pushed too far. We must not argue with too great certitude from a pathological to a physiological condition. Referring to an instance already alluded to, that, namely, of Wormian bones, if the skull of a hydrocephalic infant be examined, large numbers of ossific nuclei may be seen in the wide interspaces between the cranial bones, yet no one would argue from this that the bones of the vault were of multiple origin. That the conditions are not the same may be freely admitted, yet there is a certain similarity. The argument from the fact that the intermaxilla is the seat of the incisors, which might be urged against what has just been said, cannot be pushed too far. As has already been pointed out, in the dog the incisive suture passes through the centre of the canine

* *Journ. of Anat. and Phys.*, vol. xxi., p. 84.

socket, a portion of that tooth, therefore, belonging to the pre-maxilla. On the other hand, as Warynski has stated, the incisive suture in man may divide the socket of the lateral incisor, though not I think with anything like the constancy which he supposes, or even with comparative frequency. But where it does so fall, as he points out, a part at least of an incisor tooth, or perhaps even a whole one, if the full number of three be present, may belong to the maxilla.

REPORTS OF CASES.

SURGICAL CASES.

BY GILBERT BARLING, F.R.C.S.

Suppurating Femoral Hernia.—Mrs. D., aged 56 years, came under my care in the General Hospital August 24th, 1888. Her previous history shewed that a femoral hernia had existed on the left side for eight years, but without giving rise to any trouble. On August 16th she began to vomit, first of all bile-stained material and then fluid of a dirty brown colour and with an intensely disagreeable odour; this vomiting lasted three days, during which time there was absolute constipation. The vomiting ceased and two days later the bowels acted, but the lump in the groin increased in size and became very painful.

On admission, a femoral hernia was found on the left side; it was the size of a small orange, doughy to the feel, the skin being red and œdematous over it, and it was acutely painful. Incision into the sac let out about an ounce of most foetid pus, and a very gentle examination shewed what I had anticipated—the presence of sloughing omentum and the absence of bowel. The utmost care was taken not to disturb the omentum which firmly plugged the femoral ring, and under a simple dressing the patient made a slow but uneventful recovery.

In the first instance, in this case, it seems likely that intestine and omentum were both strangulated. Probably by the patient's manipulations the gut was reduced and the symptoms of acute strangulation subsided, but the damaged omentum remaining unreduced it furnished the starting point for the suppuration.

Suppurating Inguinal Hernia.—In March, 1885, I saw, in consultation with Mr. Lowe, of Burton, and Dr. Armson, of Yoxall, Mr. H., a powerful man, aged 36, who had for three years been the subject of a right inguinal hernia. He had neglected to wear a truss, and sixteen days before I saw him the hernia became irreducible. The patient vomited once only, and was kept in bed with the scrotum elevated, and taxis applied occasionally; the bowels acted every day. All was quiet until the fourteenth day, when a sharp rigor occurred. This was repeated the next day, and I saw him the following day. The scrotum was then larger than one's fist; it was red, œdematous and fluctuating, and the temperature was 103°.

Incision found some pus in the tissues of the scrotum, and about four ounces were liberated from the hernial sac, the odour being intensely fetid. A large mass of sloughy omentum lay in the bottom of the sac, but no bowel could be found; and as it was very important not to disturb the omentum plugging the inguinal canal, the sloughs were left to separate, which they did in a short time, and I learnt subsequently from Dr. Armson that when the patient got about, the canal remained firmly plugged.

Remarks.—In this case there does not appear to have been any strangulation of bowel, and there was nothing to explain the sudden onset of suppuration. Both cases shew the wisdom of carefully leaving the parts at the neck as much undisturbed as possible, the introduction of a little of this most putrid pus into the abdominal cavity being an event to be greatly dreaded.

Scirrhus Carcinoma of both Breasts.—*Four operations spread over a period of eleven years.*—Mrs. J., when 36 years of age, noticed a hard lump in her *right* breast. This was removed soon afterwards, in 1877, at the General Hospital, and was declared

to be cancerous, but this statement cannot be verified by any note made at the time.

In 1881, when I first saw the patient, the *left* breast was excised for a rather widely diffused tumour which infiltrated the skin over it and was a typical scirrhus carcinoma, but there was no glandular infection to be made out.

In 1882 some small nodules in the scar on the *right* side brought the patient again to hospital and the recurrence was removed; the tissues on the left side then appeared to be healthy.

In 1884 she complained of pain in the right supra-clavicular region and some glands were found enlarged there, but these, though suspected at first to be malignant, eventually suppurated and subsided.

In 1887 she again came under my care at the hospital with several hard nodules around the scar on the *right* side, one large nodule in the scar on the *left* side and a mass of infected axillary glands on the same side, which was adherent to the skin and becoming so to the deep parts. The nodules and the glands were excised, and though the axillary vein was rather severely handled owing to the adhesions to it, no harm resulted and the wounds were healed in about three weeks. Since that time (November, 1887) I have heard nothing from the patient, but looking to the double recurrence and to the difficulty of completely removing the parts in the axilla, it is probable that she has succumbed to the disease.

Remarks.—Though no note can be found as to the nature of the growth which first appeared, yet from the woman's statement and from the subsequent recurrences, which were both carcinoma, there can be no doubt that the disease was similar to that subsequently found in the left breast, and which was undoubtedly scirrhus carcinoma.

The intervals between the recurrences are remarkable; on the right side from 1877 to 1882, and then from 1882 to 1887; on the left side from 1881 to 1887. This puts a severe strain on the "three years' rule," for in the same patient we have three

recurrences with intervals respectively of five years, five years, and six years.

Another point needing comment is the gland infection on the left side. This was due either to infection from the primary growth on that side or to infection from the small nodule recurring in the scar, for it cannot be suggested that primary carcinoma originated in the glands themselves. The recurrent nodule in the scar was evidently much junior to the growth in the glands, so we can only conclude that the latter were infected by the original tumour, and from the patient's statement they were perfectly quiescent for five years.

PERISCOPE.

MEDICINE AND GENERAL PATHOLOGY.

BY ROBERT SAUNDBY, M.D. ED., F.R.C.P. LOND.

An Inquiry into the Causation of Asiatic Cholera.—By Neil Macleod, M.D. Edin., and Walter J. Milles, F.R.C.S. Eng. (*The Lancet*, 1889, Vol. i., Nos. ix. and x.)—The researches of Koch have received a strong confirmation and support from the work of these observers. Both are medical practitioners in Shanghai, and it is highly to their credit that they have by their own unaided resources carried out a series of investigations far superior to any of those performed under the direction of the Government of India. It is not too much to suggest that any officer of the British Government who published such conclusions as these would not ingratiate himself with his chiefs, for unfortunately the Government, for political and economical considerations, chooses officially to deny the infectiousness of cholera, although the contrary opinion is held, almost without exception, by the medical profession in the East Indies, whether inside or outside the services.

The following is their summary of conclusions:—"1. The

comma bacillus of Koch is invariably present, and associated with certain changes in the small intestine in cases of Asiatic cholera. 2. There is no evidence to show that it is a normal inhabitant of the human alimentary canal, and therefore no proof for the assertion that it is a result of the disease. 3. The means used to introduce the comma bacillus into, and those used to lessen the peristalsis of, the small intestine of the guinea-pig cannot be regarded as causing appearances like those of Asiatic cholera, or as causing the death of the animal, far less a mortality of over 60 per cent. 4. Pure cultivations of the comma bacillus introduced into the stomach under the precautions described are pathogenic to the guinea-pig. 5. Injected with similar precautions, the contents of the ileum from those animals killed by injection of pure cultivations of the bacilli act in the same manner as pure cultivations of that organism. 6. The organism multiplies in the small intestine of the animal, and there are therewith associated changes similar to those in man in Asiatic cholera. 7. There is strong evidence, therefore, for regarding the comma bacillus of Koch as the cause of Asiatic cholera."

Case of Actinomycosis of the Liver.—By Frederic S. Eve, F.R.C.S. (*The British Medical Journal*, 1889, Vol. i., p. 584.)—Actinomycosis hominis has been recorded so seldom that it is still regarded as a rare disease, though it probably occurs not unfrequently but escapes recognition.

Mr. Eve's case was a sailmaker aged 60, who complained of pain and swelling over the hepatic region. He was very emaciated; the liver was enlarged; there was a rounded nodule in the right hypochondrium, which moved with the diaphragm, and was believed to be a gumma or an abscess. A little later it was incised, but only soft granulation tissue came away. The wound would not heal, and sinuses formed; there was very little fever; antisyphilitic remedies were useless, and at last he died. After death the liver was found to be studded with the characteristic nodules, and the fungus was identified under the microscope.

Mr. Eve says—"This case appears quite typical of the usual course of actinomycosis, namely, in its slow progress—the duration of the disease being a year and three months—in the absence of acute symptoms, severe pain or fever; in the appearance of a fluctuating point from which only granulation-tissue was evacuated by incision, and the subsequent formation of numerous sinuses, with undermining of the skin. This combination of symptoms, coupled with the exclusion of syphilis, abscess, and hydatid, convinced me that I had to deal with a case of actinomycosis, although I could not find the fungus during the life of the patient. The pain complained of at the early period of the disease was probably due to local peritonitis, and ceased when adhesions had formed between the liver and abdominal parietes. The organism probably gained access to the liver through the intestines."

Cirrhosis of the Liver in Domesticated Animals.—J. McFadyean, M.B., B.Sc., F.R.S.E. (*British Medical Journal*, 1889, Vol. I., p. 707.)—Cirrhosis of the liver occurs in many of the lower animals, the cow, the pig, the cat, and especially in the horse. The author, who is demonstrator of pathology in the Edinburgh Veterinary College, relates two cases of advanced cirrhosis of the liver in horses, occurring without jaundice or ascites or previous evidence of ill health. The liver was in both cases enlarged, the capsule smooth and not thickened; in one case there was very marked multiplication of biliary canaliculi, in the other these were absent. The disease is said to occur as an enzootic, or as we should say in human pathology, an endemic disease in some parts of Germany, and is attributed to bad quality of hay, but this cause does not appear to have been present in these cases, the horses having been in the employment of the Edinburgh Tramway Company. One horse died of rupture of the stomach, the other of the rupture of a large vessel in the thorax.

The Pathology of the Central Nervous System in Exophthalmic Goitre.—W. Hale White, M.D., F.R.C.P. (*British Medical Journal*, 1889, Vol. I., p. 699.)—The author records a case of

exophthalmic goitre in a woman aged 31, duration 12 years; the patient died of pneumonia. At the autopsy numerous recent hæmorrhages were found in the medulla just below the posterior surface and stretching so far out as to implicate the restiform bodies. He suggests, following Sattler, that the lesion of this disease is a vascular disturbance of the nerve structures in the medulla, especially the restiform bodies, and that this predisposed these parts to the occurrence of hæmorrhage. He recalls the fact that Filehne operating on dogs succeeded in producing the symptoms of this disease by incising the restiform bodies. The author also draws attention to enlargement of the lymphatic structures in the intestine and to the presence of diarrhoea.

On Uric Acid and Arterial Tension.—A. Haig, M.A., M.D. Oxon, M.R.C.P. (*British Medical Journal*, 1889, Vol. i., p. 288).—The author has made himself known by his careful researches on his own uric acid excretion and the coincident phenomena. He has demonstrated that he suffers from a form of headache which coincides with excess of uric acid in the blood; and these investigations shew that high arterial tension is, under such circumstances, always present. Moreover, he shews that when the headache is driven away by the use of acids, the pulse tension falls; also that exercise carried so far as to cause perspiration, drives away both the headache and the high tension pulse.

Acute Lead-poisoning from Home-made Wine.—G. H. Allden, M.B. (*The Lancet*, April 13th, 1889).—The author relates three cases of acute lead-poisoning, two males and one female, all of the labouring class in the country, the source of the lead being stated to be the litharge glaze used for the large earthenware pans in which home-made wine had been made. The wine was proved to contain a considerable amount of lead.

Dr. Barry on the Sheffield Small-pox Epidemic.—We commend the following figures to the attention of our readers who may desire arguments in favour of the Vaccination Acts which at present are the subjects of so fierce an opposition.

In March, 1888, a house-to-house visitation of the borough was

made by the vaccination officers, and had reference to a population of 275,878 persons out of a total of 316,288, and to 59,807 houses. This "census" took account of 6,088 small-pox cases, and 90 deaths. It shewed that less than 1 per cent. of children of school ages were unvaccinated, whilst among people of all ages the unvaccinated amounted to about 2 per cent. This 2 per cent., Dr. Buchanan, in his prefatory memorandum quaintly designates "as so many seventeenth- or eighteenth-century people scattered about Sheffield, for the very purpose of having themselves compared under nineteenth-century conditions of life, with the law-abiding people of the present period."

Every fatal case of small-pox, every case, fatal or non-fatal, that was alleged to have occurred in vaccinated children under 10 years of age; and every case alleged to have occurred after previous small-pox or after revaccination, was personally investigated in detail by Dr. Barry. Stated generally, his results shew that, as regards the 70,000 children under ten years, living in Sheffield, the attack rate of the vaccinated was 5 per 1,000, and that of the unvaccinated was 101. The death-rate of the vaccinated children under ten was 0.09, and of the unvaccinated 44. Or, in other words, in 100,000 vaccinated children the mortality was nine, and for the same number of unvaccinated children the mortality was 4,400. Therefore the vaccinated had a 20-fold immunity from attack by small-pox, and a 480-fold protection against death by small-pox. Of the children living in the houses actually invaded by small-pox, the attack-rate was 78 per 1,000 in the vaccinated, and 869 per 1,000 in the unvaccinated. The death-rate of the vaccinated was 1, and of the unvaccinated 381 per 1,000. Therefore the protection enjoyed by the vaccinated over the unvaccinated was 11-fold against attack, and 381-fold against death. There was a similar experience with reference to persons over 10: For every 100,000 of those twice vaccinated, there were 8 deaths; of those once vaccinated, 100 deaths; and of the unvaccinated, 5,100 deaths. Then, as to the persons employed in the various hospitals: Of 161 persons 18 had had small-pox, none of whom fell ill; 62

were vaccinated only in infancy, 6 of them were attacked, and 1 died; the remaining 81 had been revaccinated, and not one contracted small-pox. Then as to the troops: There were 830 of all ranks, of whom 12 were attacked and 1 died. The medical officer in charge of the troops informed Dr. Barry that revaccination had been attempted with the 12 men attacked, but that in every case it had been unsuccessfully performed. Then, of the police: 10 of them took small-pox, when a revaccination was ordered, and no further cases occurred. Again: Of 290 men employed at the Post Office, all were revaccinated, and during the whole course of the epidemic not one took the disease. The net result in Sheffield was that if the vaccinated children had been attacked at the same rate as the unvaccinated, there would have been 7,000 attacks in place of 353, and 3,000 deaths in place of 6; or up to the conclusion of the epidemic there would have been 4,400 deaths in place of 9. These are very simple but conclusive facts, and it will require a great amount of ingenuity to controvert them. The experience of Sheffield is, however, only a repetition of that of London in 1881, of Montreal in 1885, of Leipzig in 1871, and of every other scene of an epidemic of small-pox in recent years.

GENERAL ABDOMINAL SURGERY.

BY JORDAN LLOYD, F.R.C.S.

A Case of Relapsing Typhlitis Treated by Removal of the Vermiform Appendix—(*Lancet*, Feb. 9th).—Mr. Frederick Treves and Dr. Swallow record the case of a gentleman, aged 29 years, who had suffered from three attacks of typhlitis of increasing severity during five months, which were thought to be due to disease of the vermiform appendix. The appendix was excised at a time when the patient was in good health, rather than during the period of active disease. He made a rapid

recovery from the operation and six months later no further relapse had occurred. Treves gives a series of suggestions concerning the operation which are deserving of careful study.

Case of Perforation of the Vermiform Appendix; General Peritonitis; Successful Laparotomy.—(*N. Y. Med. Record*, Feb. 20, 1889).—Dr. Jacobus, of New York, records the case of a man, aged 50, in whom symptoms of typhlitis suddenly appeared and yielded somewhat to treatment for a few days; on the fifth day, however, his condition was so serious that operation was performed. The peritoneal cavity contained sero-pus, the intestines were matted together, the appendix perforated, and a bean lay close to it. All adhesions were torn apart, the peritoneum flushed with plain water and drained. The appendix was untouched. On the sixth day—the patient doing well—the wound was opened by straining and the intestines escaped under the bed clothes. They were washed and returned and the wound edges sutured again. From this time recovery was rapid and complete. Dr. Jacobus suggests the following conclusions at the end of his paper:—

1. That typhlitic diseases are intra-peritoneal; that in nearly every instance they originate in inflammation or perforation of the appendix or cæcum, usually caused by fecal impaction or foreign bodies; that even though these diseases frequently do not end in suppuration, still their tendency is to recur and frequently end fatally by septicæmia, or shock from ruptured abscess or purulent peritonitis.

2. That, in view of the foregoing, all diseases of this region, giving symptoms of inflammation or peritonitis, without regard to the question of pus or abscess, and which do not yield promptly to the modern medicinal treatment and are progressive, should be treated by laparotomy at the earliest possible period.

3. That when peritoneal or intestinal adhesions or pus-sacs exist, they should always be broken up, the abdominal cavity thoroughly drenched with sterilized plain water at a temperature of 105° F., the wounds sutured, and the cavity drained by glass tubes.

4. That, excepting in undoubted cases of simple post-coecal abscess unaccompanied by peritonitis, the incision should be made either vertically over the caput coli or in the linea alba below the umbilicus, and preferably the latter operation when extensive peritonitis or adhesions are suspected.

5. That, whether in operative cases or not, opiates should be used as little as possible; but, on the other hand, saline or vegetable cathartics (followed by enemata) should be used from time to time to relieve the inflammation, tympanites, pain and fever, and particularly to drain the peritoneal cavity of serous or purulent effusion.

An interesting discussion which followed the reading of the paper appears in the same journal.

Successful Nephrectomy for Laceration of Kidney—(*Amer. Journal of Med. Sci.*, Feb., 1889).—Dr. Mudd, of St. Louis, records the case of a five-year-old boy who had been run over by the wheel of a carriage. Slight hæmaturia for three or four days only; temperature irregular until the sixteenth day, when it was normal, and remained so until the twenty-sixth day. During this period a right lumbar swelling developed, which was aspirated on the twenty-fifth day. Next day swelling again appeared, with fever, and was incised and drained from the loin. The bladder urine was normal. The loin opening persisted, and on the 51st day the kidney was excised. The organ was in a state of parenchymatous degeneration, with opacity of the tissues and swelling. The progress toward recovery was uninterrupted.

Suppression of Urine Treated by Removal of an Impacted Calculus from the Ureter by Operation.—By F. W. Kirkham (*The Lancet*, March 16th, 1889).—The patient, a man aged 58, had had renal colic of the right side six years previously, and passed a small calculus. About a year after, he had another attack on the same side, which suddenly ceased after twenty-four hours. On May 24th, 1888, he got suppression of urine following an attack of renal colic on the left side. This lasted till the 30th, when he was greatly prostrated and complained of

headache and drowsiness. Mr. Kirkham decided to operate, and having exposed the kidney in the left loin and explored it without finding a calculus, enlarged the wound and followed down the ureter till he came upon a calculus impacted in it about half an inch above where it crosses the external iliac artery. The ureter was incised, and a calculus the size of a large date stone removed. A drainage tube was introduced in the wound, the edges of the skin were sutured, and a pad of iodoform wool retained over it by a bandage. Half an hour after the operation urine passed naturally, and the patient made a good recovery.

Cases of Nephro-lithotomy.—W. H. Jacobson, Butler-Smythe and Thornton (*British Medical Journal*, 1889, Vol. i., p. 712, and *Lancet*, 1889, Vol. i., p. 734).—At the Clinical Society Mr. Jacobson related four cases of nephro-lithotomy. Case I. was a male aged 23; the symptoms had lasted five years, there was entire *absence of hæmaturia*; vomiting and pain were the chief symptoms; the stone was oxalic and uric acid. This patient made a good recovery. Case II. was a male aged 58; the pain was specially *nocturnal*; the urine was *free from albumen, sugar and pus*; there is no mention of hæmaturia; the symptoms had lasted thirty years; death resulted from the operation; both kidneys were affected. Case III. was a male aged 15; the symptoms had lasted eight years; the urine was purulent; the patient died after the operation; both kidneys were affected. Case IV. was a male aged 41; the symptoms were life-long; the calculus was oxalic acid; the patient made a good recovery; there is no mention of hæmaturia. Mr. Butler Smythe's case was read to the same meeting. The patient was a young woman under the care of Dr. Steavenson, who complained of pain running down the right thigh with a swelling in the right iliac region. The patient died of secondary hæmorrhage, after the operation, into the hydronephrotic sac.

At the Medical and Chirurgical Society Mr. Knowsley Thornton read a paper on twenty-five cases of nephrectomy

treated by abdominal section. The author accompanied the paper by a complete table of the twenty-five cases, showing age, sex, condition, disease, date of operation, situation of incision, method of treating the ureter, whether drained or not, immediate result, and subsequent history to date. Eight of the cases had already been brought before the International Medical Congress in Copenhagen, and these were marked off from the seventeen unpublished cases in the table, and but briefly if at all referred to in the context. Of one of them (No. 6), which was reported a failure in 1884, with pain in the bladder and the other kidney, a very satisfactory subsequent history was now given, the patient being in perfect health, married, and mother of a son. There were twenty recoveries and five deaths in the series, a result 20 per cent. better than that generally given for all nephrectomies, including those by lumbar section. This result was compared with that in ovariectomy eleven years ago, the mortality being then much higher for this comparatively simple operation. Two of the fatal cases were pointed to as not properly to be counted against abdominal nephrectomy, one being a malignant tumour which had perforated the right pleura, and the other having died of hemiplegia, which was brought on by the anæsthesia rather than by the operation. All the features of special interest in both the successful and fatal cases were touched upon. The superiority of nephrectomy over nephrotomy and drainage for the cure of hydronephrosis was illustrated by six cases. Incision of suppurating kidney as a preliminary to nephrectomy was condemned. The author's practice of pinning out the ureter had led to no troubles, and was claimed as the chief factor in success. The removal of suppurating kidneys without any puncture during operation was strongly advocated whenever their size admitted it. The superiority of Langenbüch's incision was insisted upon. The question of drainage was fully discussed, and that of the differential diagnosis in sarcoma of the capsule and of the kidney touched upon. A question was raised as to the varieties of tubercular (so-called scrofulous) kidney. And the paper concluded with a

promise of records of lumbar and abdominal nephrotomies and nephrolithotomies in which the mortality was considerably lower than in nephrectomy. Either figures or actual specimens were shown of many of the cases.

CEREBRAL AND SPINAL SURGERY.

BY JORDAN LLOYD, F.R.C.S.

On Cranio-cerebral Topography.—By Dr. Dana (*N. Y. Med. Record*, Jan. 12th, 1889).—A long article, which endeavours to present in as complete a manner as possible the subject of cranio-cerebral topography. It includes a description of the landmarks and variations in shape and size of the skull; its vascular supply, together with that of the brain; an enumeration of the cerebral lobes and convolutions; and, finally, a systematised description of the methods of localising the positions of the fissures, lobes and convolutions on the scalp. The sutures that have to be found for purposes of localisation are the sagittal, the lambdoidal, the squamous, the parieto-sphenoidal and the coronal. The bony prominences that must be felt are the external occipital protuberance, the superior occipital curved line, the glabella or prominence just above the naso-frontal suture, the temporal ridge, the parietal eminence, the mastoid process and the external angular process. The variations which are dependent upon age are most considerable in the first year, and continue to change up to the fourth year. After that modifications are slight, and appear more slowly. By the end of the seventh year the skull has nearly reached its full size, more nearly in girls than in boys. The vascular supply of the scalp, skull and dura comes from the external carotid; that of the eye, brain and pia from the internal carotid and vertebral. The veins of the cerebrum are:—1, the superficial cerebral; 2, the deep cerebral; and 3, the cerebral sinuses. A short historical review of cranio-cerebral topography is given, from which it appears that the subject was first studied in 1857 by Gratiolet.

After a careful consideration of the observations of many workers in this field, Dr. Dana frames a set of rules for the surgeon's guidance; from amongst them the following, being the most important, may be quoted: *The fissure of Rolando*. Its upper end is in a line between the glabella and the occipital protuberance, situated at a point 55·7 per cent. from the former landmark. The upper two-thirds of this fissure descend downwards and forwards at an angle of 67° from the middle line, and its lower third is slightly more vertical. The total length of the fissure averages 3½ in. *The fissure of Sylvius*. Draw a vertical line from the stephanion to the middle of the zygoma. Draw a horizontal line from the external angular process to the highest part of the squamous suture; continue this back, gradually curving it up till it reaches the parietal eminence. The junction of the two lines will be at the beginning of the fissure. The vertical line indicates the anterior limb, and the posterior part of the line the posterior limb of the fissure. The triangular gyrus and motor speech centre lies just anterior to the vertical branch, and the operculum lies just back of it. Dr. Dana's paper is illustrated with eighteen drawings, a study of which will be found most valuable by those engaged in this branch of surgical work.

Double Cerebral Abscess; Trephining; Death on 5th day.—By Dr. Cameron Kidd (*Lancet*, Feb. 2, 1889).—Boy, 13 years; three years ago was kicked by a horse on the forehead; his manner subsequently was somewhat changed, but he had no actual illness until one day whilst out walking his legs gradually failed him and he had a convulsive fit; spasm was confined to the right side of body and face. Next day he was as well as before. A few days later he became lethargic and had pain in forehead and back of neck and soon passed into semi-coma. There were no localising symptoms of any kind. Trephining at site of old forehead wound found bone healthy, dura soft and friable, and a four or five drachm abscess in the frontal lobe immediately underlying. He appeared to improve slightly, but

died suddenly four days later. The *post mortem* examination shewed lesion at site of operation to be doing well, but a second abscess was found in the right temporo-sphenoidal lobe, without any primary cause to account for it.

Case of Successful Operation for Cerebral Abscess.—Professor von Bergmann shewed to the Berlin Medical Society, on December 5th, the patient, a workman, aged 29, who had suffered from otorrhœa for eleven years. For six years he had been ailing, and after admission it was found that there was some fever with exacerbations and shivering. Evidence of the intracranial mischief was afforded by the onset of headache and by a remarkable slowing of the pulse to 53 per minute. Finally right facial paresis with partial left hemi-anæsthesia and hemi-paresis ensued, symptoms which confirmed the probability of a lesion of the left hemisphere affecting the sensory centres. The diagnosis of abscess of the temporo-sphenoidal lobe was made. The skull was freely opened, the dura mater incised, and the pulsating brain exposed. Having in two previous cases missed an abscess with the trocar, the Professor now prefers to incise the brain. In the present case pus, which was extremely green and foul, was reached only on the third incision; the finger could be introduced into a smooth walled cavity. A drainage tube was introduced and the wound dressed with iodoform gauze. The subsequent progress of the case was very satisfactory; the drainage tube was gradually shortened, and in three weeks the abscess cavity was entirely closed. Six weeks after the operation he was shewn as mentioned above; the facial paralysis and other nervous symptoms had disappeared.

Case of Cerebral Abscess.—By Dr. W. Tyrrell Brooks (*Lancet*, Feb. 2nd, 1889).—Man, 38 years, pneumonia and delirium tremens in 1884. Shortly after had abscess in leg; right pleuro-pneumonia in 1885; convalesced in nine weeks, and remained well until May, 1888. Then had severe headache; few days later convulsions; no paresis on recovery. A week later another fit, affecting right side of body and limbs only, which were rigid subsequently. Severe pain was left in parietal

region; symptoms increased during next two weeks, when he was admitted to Radcliffe Infirmary. He was then heavy and drowsy; roused up when spoken to; yawned repeatedly; indefinite aphasia; rigidity of right arm and tremors of arm and hand; grip enfeebled, sensation blunted; right leg colder and rigid. Patellar reflexes increased, and marked ankle clonus, especially in right side. Shortly after admission he was seized with great dyspnoea and became intensely livid; the breathing ceased soon, but the heart's action continued. Bleeding and artificial respiration were resorted to without avail. *Post mortem* examination revealed a large cavity, containing thick green pus, occupying the greater part of the left temporo-sphenoidal lobe, with pus in the lateral ventricles and a small quantity also at the base around the medulla. There was no general meningitis. The parietal lobes adjacent to the abscess were very much softened, and presented all the appearance of commencing breaking down. So far as could be ascertained, the abscess was a primary idiopathic affection. Dr. Brooks considers that the antecedent pneumonias originated an abscess, which remained latent for an unusually long period. [Is it not possible that the abscess originated the pneumonias?—J. L.]

Tumour of the Brain and Accidental Injury.—The following case is recorded in the *Vierteljahr. für Gericht. Med.*:—A man fell from a ladder striking in his fall the corner of a table, and was unconscious for several hours. After slight and transitory improvement he had head pains, mental weakness, slowing of pulse, narrowing of field of vision, then transitory mania, and finally almost total blindness and paralysis of left arm. Death took place six months after the accident. *Post mortem* examination revealed a cerebral sarcoma, of comparatively recent growth, corresponding in its site to the injured part of the skull.

Contribution to the Surgery of Cerebral Tumours (Annals of Surgery, March, 1889).—Dr. Pilcher, of Brooklyn, contributes a case of supposed tumour in the neighbourhood of the left angular gyrus, due to an injury six years before. Epileptic seizures of a definite character indicated the possible position of

a growth, but at the operation no tumour was met with at all, although an opening 3 in. long by $2\frac{1}{2}$ in. broad was made at the supposed site. The patient died four days afterwards. A *post mortem* examination revealed the presence of a gliomatous tumour in the anterior part of the left frontal lobe, and at a distance therefore from the site of the old injury. In the remarks which follow, Dr. Pilcher cites several instances where symptoms have pointed to the location of a cerebral lesion which operation has failed to confirm. He believes that gliomatous tumours may sometimes be removed with complete success, and he calls attention to the danger of exploratory puncture of the brain with sharp instruments like hypodermic needles, because of the bleeding which follows wounds of cerebral vessels.

Extradural Tumour of Spine ; Paraplegia ; Complete Operation ; Recovery (*N. Y. Med. Record*, Feb. 9th). —Dr. Robert Abbe, of New York, records this case :—Man, aged 22 ; pain in back of four months' duration ; induration then formed about lower dorsal spines ; disturbance of tactile sensibility, and then of muscular power in both legs ; line of hyperæsthesia around abdomen, which marked the limit between the anæsthetic and normal areas ; power went from legs ; uncontrollable twitchings ; spine became rigid and painful ; hectic set in ; incontinence of urine and fæces. The swelling was explored several times before pus was found. A six-inch incision was then made close to the spines from the sixth to the twelfth dorsal. The laminæ being uncovered, some thick broken-down tissue and pus were scraped away. The laminæ were already bare of periosteum, and the spines and laminæ of the eighth, ninth and tenth nerves were cut away by rongeurs. This revealed a dense mass of tissue and dessicated pus occupying the entire calibre of the canal, and extending up and down in all two and a half inches. This compressed the cord tightly against the anterior wall. It was rapidly and thoroughly removed by a sharp Volkmann spoon, until sound bleeding tissue was left on every side. The cord was not seen to pulsate. The cavity was packed with iodoform gauze, and an antiseptic dressing and plaster of Paris jacket

applied. On the eighth day sensation began to return, and in the fourth week he began to move his left leg and the toes of his right. Eight months after the operation he walked well without support, and was stout and hearty. Dr. Abbe thinks the neoplasm began between the theca and the posterior arch of the vertebræ, and then broke down, involving the bone, the bodies of the vertebræ remaining perfectly sound.

In the same paper Dr. Abbe also records the following :—

Intractable Brachial Neuralgia probably due to Ascending Neuritis; Operation; Relief to Symptoms.—Man, 44 years; more than a year before began to suffer pain in right forearm; gradually extended, muscular apparatus becoming also affected; posterior inter-osseous and ulnar nerves were stretched without giving relief; arm was then amputated below insertion of Deltoid; but still pains went on, and finally the following operation was performed on the cervical cord :—An incision was made along the ligamentum nuchæ on the right side from the third cervical to the first dorsal spines. The laminæ were gnawed away and the following nerves divided :—The sixth, both roots, outside the dura; the seventh, both roots outside, and also the posterior root inside; the eighth posterior roots only inside the dura. The dura pulsated, and its edges were sutured with catgut. The wound healed primarily, and in the second week the man got up. The pain was partially relieved by the operation. The case is full of remarkably interesting features, and the paper deserves most careful study.

A proposed Operation for Tapping and Draining the Ventricles as a definite surgical procedure.—(*Med. News*, Dec. 1, 1888).—

Dr. Keen in a paper on the above subject formulates certain rules for guidance in the performance of this operation and gives preference to the following :—Trepine one and a quarter inches behind the auditory meatus and one and a quarter inches above Reid's base line. Puncture towards a point two and a half inches directly above the opposite meatus. The puncture will traverse the second temporo-sphenoidal convolution, and enter the normal lateral ventricle at the beginning, or in the course of

the descending cornu at a depth of about two to two and a quarter inches from the surface. He says that if, after removing a disc of bone by the trephine, the dura pulsates, bulges in the wound and is tense and elastic to the touch, the diagnosis of intra-ventricular effusion will be confirmed, but that if the dura is tense, elastic and bulging, but non-pulsating, abscess or tumour should be suspected and sought for.

REPORTS OF SOCIETIES.

MIDLAND MEDICAL SOCIETY.

April 3rd, 1889, HUGH KER, F.R.C.S. Ed., President, in the Chair.

Drop wrist from injury to musculo-spiral nerve.—Dr Suckling shewed a man suffering from paralysis and wasting of the muscles supplied by the left musculo-spiral nerve following a severe injury. About eighteen months ago a large slab of marble fell against his left arm causing a lacerated wound on the posterior aspect, two inches above the elbow joint. The man found that his hand was very weak and that his thumb was numb immediately after the accident. He went to the Queen's Hospital six months ago when it was found that there was no faradic irritability in the posterior interosseous nerve. The supinator longus and extensor carpi radialis longior were also paralysed, wasted, and not acting to faradism. With galvanism only a very feeble contraction of a few muscles could be obtained. Mr. Jordan Lloyd on searching for the injured nerve could only find the upper extremity which was adherent to the bone. No improvement has followed continued galvanisation, and Dr. Suckling considered the prognosis very bad.

Simultaneous neuritis of the cervical and brachial plexuses and of the facial and superficial branches of the fifth nerve on the right side.—Dr. Suckling shewed a woman, aged 30, who after exposure found that the right side of her face was paralysed, and that the right upper limb was numb and weak. She experienced severe shooting pains along the branches of the cervical plexus and down the arm, followed by numbness. When examined she was found to have complete peripheral facial paralysis on the right side with anæsthesia in the area of distribution of the right fifth nerve, the motor part of the nerve escaping. There was anæsthesia also extending down the upper limb in the form of two bands, an outer and an inner, the interval between these bands both on the anterior and posterior aspects being hyper-æsthetic. The outer band of anæsthesia extended down to and included the thumb and index finger, the inner band involved the little finger only; the distribution of the anæsthesia being the same on both aspects of the hand. There was marked weakness of all the muscles and the grasp was very feeble. Sensation in the right side of the neck and over and below the clavicle to the nipple was slightly diminished. The patient also experienced a feeling of suffocation on the right side, the right phrenic nerve being affected. The distribution of the anæsthesia in the upper limb did not correspond to any particular nerves. The reaction of degeneration was well marked in the muscles of the face, but in the muscles of the upper extremity the faradic response was excessive. Five weeks after the onset of the illness the sensation had returned in the upper limb and on the face and neck, and the grasp of the right hand had much increased. The facial paralysis had also much improved.

Double congenital dislocation of the radius in adult twins.—Mr. Augustus Clay exhibited two adult males (twins) of weak intellect who were the subjects of double congenital dislocation of the radius backwards. The humeri in both cases were normal with the exception of the radial heads being less rounded than usual. The head of the radius, which was completely dislocated, was fully developed in all instances but one, and the

cup-shaped depression still existed and could be easily distinguished. The ulnæ were quite natural. The arms were pronated and could only be supinated to a slight degree, but extension was almost complete. In both cases the feet were symmetrical and had the three middle toes webbed to the base of the ungual phalanx. The father was not an imbecile, but in other respects his irregular development was absolutely identical with that of his sons.

Buphthalmia.—Mr. Lloyd-Owen shewed a case of buphthalmia.

Osteitis Deformans.—Mr. Jordan Lloyd shewed a patient suffering from osteitis deformans. The man was 82 years of age and had always been in good health; there was no history of gout, rheumatism, syphilis, or tubercular disease. About two and a half years ago he noticed his left tibia was getting thicker and was bending, but it did not trouble him in any way. He came under treatment for an eczematous ulcer on the inner and lower third of the leg. The left tibia was greatly enlarged from end to end and was bent forwards and slightly outwards in a very marked degree. The skin was normal in colour but pitted on pressure, and the local temperature was raised. It was not painful; the right tibia was thickened in its lower third and was curving slightly forwards. The chest was narrowed from side to side but was deepened from before backwards. The dorsal spine was bowed backwards and the arms hung forwards in the characteristic manner. Hats which he had worn comfortably two years ago now fitted him tightly. His general health was excellent. There was no similar malady in his family. All the other bones were examined but only those detailed above were affected.

Erythema multiforme.—Dr. Stacey Wilson shewed a patient who was suffering from an attack which commenced a week previously as papules and blotches on the backs of the hands, and was accompanied by considerable itching and some constitutional disturbance. The case shewed well the multiform character of the disease.

Brass-workers' Teeth.—Dr. Hogben exhibited a patient with

the green discolouration of the teeth characteristic of brass-workers.

Secondary Sarcomata.—Dr. Hogben also exhibited sections of melanotic sarcomata recurring secondarily in all parts of the body after removal of the eyeball for a growth in the choroid.

Tumour of the Bladder.—Mr. Marsh read notes on two cases of tumour of the bladder.

April 17th, 1889, HUGH KER, F.R.C.S. Ed., President, in the Chair.

Phthisis.—Dr. Foxwell shewed a case of phthisis in a lad of 17 who, although his left lung was apparently riddled with cavities, with cavernous sounds also at the right apex, yet had but few symptoms and continued to do his work—that of chandelier making—without difficulty or complaint. He presented himself at the General Hospital because of recent pain in the right axilla where a little dry pleurisy existed. In June, 1885, he had previously come to Dr. Foxwell as an out-patient for a similar pain affecting the left apex anteriorly. The diagnosis then made was pleuro-pneumonia of the left chest with an old cavity at the apex. It was interesting to note that this left apex was now the only part of the left lung where cavernous sounds could not be detected. This was no doubt owing to closure by fibrosis of the cavity existing there years ago. The largely uncovered condition of the heart was also in favour of this condition. During the three and three-quarter years intervening between his two visits to the Hospital he had maintained good health and kept at work.

Empyema: resection of ribs.—Dr. Foxwell also shewed *cyrtometer tracings* taken from two cases of empyema at the levels of the 2nd, 3rd, and 4th ribs after resection of these and lower ones. These exhibited remarkable degrees of collapse of the chest wall for such high horizontal planes, and illustrated the usefulness of resection of the upper ribs. There was very little falling of the shoulders in either case.

Hereditary Ataxia or Friedreich's disease.—Dr. Suckling shewed three cases of this disease. One patient, a girl aged 18, had noticed when she was about 15 that she could not properly direct her feet, this inability gradually increased and soon affected the upper extremities. The gait was marked by ataxia and there was much swaying when she stood with her feet close together, increased when the eyes were closed. There was tremor of the head and trunk and slurred speech. The knee-jerk was absent on both sides. The pupils responded normally to light and accommodation, she had not suffered from shooting pains, attacks of vomiting or trophic changes. There was no affection of the rectum or bladder and no disorder of sensation. The intellect was perfect. The spine was not curved and there was no nystagmus. The patient's brother, aged 20, had been taken to the Queen's Hospital to see Dr. Suckling, and it was found that he was quite crippled by the disease. He was first attacked when about 13 and used to stagger, this increased till he could not stand, and then the arms were affected. At the present time he is quite unable to stand, and motor power, though not entirely lost is deficient in the legs. The spine is much curved forwards in the dorsal and cervical regions. The head and trunk shew tremor on movement; there is nystagmus on the eyes being directed to one side and the speech is slurred. The knee-jerk is lost, but the pupils respond to light and accommodation. He has never had pains, crises of any kind, bladder trouble or ocular paralysis. No further history of the disease in the family could be obtained. Dr. Suckling also shewed two brothers suffering from the disease. The elder, aged 25, was unable to stand, presented marked antero-posterior and lateral curvature of the spine, nystagmus, paresis with ataxy, and talipes equino-varus, the knee-jerk being lost. The younger brother, aged 7, was affected to a much less degree. The spine was beginning to be curved and the knee-jerk was lost. The gait being also slightly ataxic.

Cervical Caries treated by a collar splint.—Mr. A. F. Messiter shewed a boy, aged 7, who had suffered from cervical caries for

four years. In June he became paraplegic and soon lost control over his bladder and rectum. In the following October an abscess broke in the right side of his neck. In December he came under Mr. Messiter's care, at which time his spine was tender, rigid, and thickened, the head and neck flexed, the chin resting on sternum. There was a freely discharging sinus on the right side of his neck, the lower extremities were paralysed, and there was some impairment of sensation; urine and fæces passed involuntarily. The head was raised and kept up by means of a leather collar coming under the chin. In three weeks time he could walk round the table, the sinus in the neck had healed, and he had regained control over his bladder and rectum. The patient is now fat and well, and can run about, though of course he wears the collar.

Abdominal aneurism.—Dr. Carter shewed a case of aneurism of the abdominal aorta.

Artificial Infant Feeding.—Dr. Carter read a paper on the Principles of the Artificial Feeding of Infants.

REVIEWS.

JENNER AND VACCINATION.*

DR. CREIGHTON has at length ranged himself amongst the most polemical of anti-vaccinist writers. In this work he appears to seek the distinction of being the first to lay aside weak arguments in favour of vigorous personal abuse. It seems that we have been mistaken in regard to Jenner; it is true he was the pupil of John Hunter, and for his biological researches had been made a Fellow of the Royal Society before he published a word on vaccination; but Dr. Creighton finds him a "loose

*Jenner and Vaccination: a Strange Chapter of Medical History. By Charles Creighton, M.D. London: Swan, Sonnenschein & Co. 1889.

thinking, vain, imaginative sort of person " possessed of " a very unscrupulous mind " and palpably " either a knave or a fool," " a shuffler," " an imposter " who " foisted " on the world a " bogus trick " and was given to " sly and impudent tales," and of whom " it would be charitable to assume that vanity had turned his head and made him untruthful," for his origin of the vaccine inoculation was nothing more than a " tissue of lies."

As an instance of the absurd bias of this book we may take the way the writer speaks of the nameless country practitioners in Jenner's neighbourhood who at first ridiculed his idea ; just as every innovation the world has yet seen has been ridiculed. He tells us " the way was barred by the hard facts of experience, which country practitioners, who knew far more of cow-pox than Jenner did, recognised in the way sensible men do recognise hard facts." Here indeed was Jenner's difficulty, for under the name of cow-pox two distinct diseases were known, one a purely local affection which did not protect, and the other a specific disease which did ; and without actual experiment of vaccination and subsequent inoculation of small-pox he could not test the truth of his idea. However, on page 39, Dr. Creighton tells us that " it is beyond comprehension why anyone should prefer experiment to casual experience." Are we to consider Dr. Creighton as a serious writer, or is this meant as a joke? If this is really beyond his comprehension, the mystery of his alliance with the anti-vaccinators in the face of the overwhelming evidence in favour of the practice, is at once solved, for it is only by accepting the vague generalisations of " casual experience," in place of the definite results of experiment, that he has been able so utterly to befool himself.

Jenner in his inquiry into cow-pox was not content with an exposition of its effects, but endeavoured to work out its etiology. In a series of cases he noticed that the disease broke out in farms where men were employed to milk the cows and also attend to the horses, and that the horses had previously been affected with the disease. But unfortunately horses are liable to a local affection, " equinia mitis," as well as the horse-

pox; and in Jenner's time the two diseases had not been differentiated, but were both called the grease. On page 52 of his "Inquiry" Jenner asks, "May it not, then, be reasonably conjectured that the source of the small-pox is morbid matter of a peculiar kind generated by a disease in the horse, and that circumstances may have again and again arisen, still working new changes upon it, until it has acquired the contagious and malignant form under which we now commonly see it making its devastations amongst us? . . . Is it difficult to imagine that measles, the scarlet fever, and ulcerous sore throat, with a spotted skin, have all sprung from the same source, assuming variety in their forms according to the nature of their combinations?"

In striking contrast with these pregnant conjectures of adaptation to environment, breathing as they do the spirit of Darwin and Lamarck, are the ideas of Dr. Creighton, who tells us that "the cow-pox, in fact, arose *spontaneously* in some one cow," and "became infective and generally went the round of every cow in the shed;" and "it is as truly nonsense to speak of cow-pox becoming small-pox as that a horse-chestnut is a chestnut horse."

To do Dr. Creighton justice, it is necessary to remember that he has peculiar views of his own on infective diseases; for in 1883 he promulgated the ingenious paradox that infective diseases are due to modifications of healthy states consequent upon disturbance of physiological processes. It is hardly necessary to point out that such ideas are absolutely opposed to the almost unanimously accepted germ theory of specific disease, and that spontaneous generation, from a biological point of view, has not a leg to stand upon.

Dr. Creighton has a new theory of the protective action of vaccination. He tells us that when it does protect, it does so by "plugging the lymphatic glands." He then, without any evidence whatever, asserts that scrofulous subjects are less likely to take small-pox (at any rate from inoculation) because they have enlarged absorbents; and he tells us Jenner's great show

case (James Phipps) was a good instance. Now Jenner distinctly tells us that he was a healthy boy ; he describes the case he inoculated him from, and gives a coloured plate of the pustules from which he took the lymph. Two months later, as if he had foreseen the possibility of such a captious critic, he inoculated the boy with small-pox, not on one arm, but "by several slight punctures and incisions on both his arms, but no disease followed." This is conclusive ; for assuming the glands enlarged after vaccination in the one arm, this would not prevent the virus being absorbed in the other.

It is only by remembering that Dr. Creighton cannot conceive how anyone can prefer actual experiment to casual experience that we understand his broaching his clogged lymphatic gland theory in the face of facts like this ; his book is however full of equally original and unstable theories. He insinuates that the first cases in Jenner's series of aged persons inoculated a long time after being cow-poxed do not prove that the cow-pox protected them against subsequent variolous inoculation. "As if," he exclaims, "advancing years did not weaken the susceptibility to small-pox virus." To see to what extent this is true the writer of this notice has counted the number over 60 years of age in 1000 consecutive fatal cases of small-pox and found them to number 21, of which six were over 70 years of age. It is perfectly true that in Jenner's time the mortality was very small amongst aged persons, but it was not because "advancing years weakened the susceptibility," but because almost everyone earlier in life either contracted the disease by contagion or was inoculated, but Jenner eliminated these sources of fallacy from the series referred to.

But Dr. Creighton has endeavoured to mislead the public mind and to arouse an immense amount of prejudice by crudely asserting that cow-pox is a form of syphilis, a statement which, should it turn out to be false, must earn for its author a just title to some of those epithets he indulges in so freely, and if true should be supported by some sort of reasonable evidence when put forward as a contribution to a very serious discussion.

On page 34 he states, "The pox proper, or syphilis, and the milker's pox begin in the same way, and are in other respects closely similar." On page 92 he tells us, "The utter unlikeness of cow-pox to small-pox, and its singular generic resemblance to the great pox becomes obvious." Further on, speaking of Ricord's experiments on syphilisation he says, "If these experiments had existed in 1798 the secret artifice of making cow-pox first known to the profession under the name of small-pox of the cow would have been obvious, at least to the pathologists, and would have been exposed in due course, for it would have been shown that the affinity of cow-pox was to the *great* pox of man." [The italics are Dr. Creighton's]. He then gives a full narrative of a young man who was inoculated on his thigh from multiple primary sores on his own person. He calls this a typical instance of ulcerous specific infection, exactly on a parallel with the inoculation of cow-pox.

There is not one word in the book to warn the reader that constitutional syphilis is not the disease referred to, and that there is no resemblance whatever between the constitutional disease and the local affection which the writer palms off as "the great pox proper or syphilis."

To estimate at its full value the effect of anyone in Dr. Creighton's position making these statements, we must bear in mind that the gravest objection to the practice of vaccination is owing to the possibility of conveying constitutional syphilis.

The best answer to this book would be a popular edition of Jenner's original "Enquiry;" but as the Government has consented to refer the subject to a Royal Commission there will be the fullest opportunity afforded for getting at what few grains of truth there may be in the criticisms of the antivaccinists.

THE FUTILITY OF EXPERIMENTS WITH DRUGS
ON ANIMALS.*

WE took up this book with some sympathy, because we are strongly of opinion that experimental pharmacology has done very little for therapeutics, and that there is great need that some of the talent and energy now wasted in the laboratory should be utilised by the bedside. But a perusal of these pages has assured us that the author is as little disposed to sanction therapeutic experiments on human beings as on animals. Like the wonderful doctors in the wonderful hospital founded by the superior people who constitute the virtuous portion of the *dramatis personæ* of "St. Bernard's," he will only admit the use of remedies "whose utility has been thoroughly proved." But how is this to be done without trials or so-called experiments? Are we to be satisfied with the drugs we have and seek to know no more? Would this be wise in a generation which has acquired such important remedies as chloral, the salicylates, and nitroglycerine by experiment?

The author's style does not commend itself for its logic; undescribed experiments are repeatedly spoken of as "atrociously cruel" and "cruel." The method of the book is to place opposing statements in parallel columns, and to infer the worthlessness of a study in which such contradictions can obtain; a method that can only be intended to carry weight with the uninstructed; for such are the difficulties of all experimental enquiries that these contradictions could be discovered in any line of research. Finally, the facts themselves are not stated in a way that is creditable to the candour or the knowledge of the author. His account of the experiments on the secretion of bile, by Bennett and Rutherford, is confused and inaccurate to an unpardonable extent; as is also the account

* The Futility of Experiments with Drugs on Animals. By Edward Berdoe. London: Victoria Street and International Society for the Protection of Animals from Vivisection. 1889.

of the introduction of nitrite of amyl for the treatment of *angina pectoris*.

As a variation of the method above described paragraphs are occasionally introduced to laud some remedy not of scientific invention such as "Matico" which is said to be "so useful that they (the physiologists) generally ignore it," and Friar's Balsam which in the practice of Mr. Bryant is said to have given results which "appear to challenge those obtained by the most complicated antiseptic surgery." It will be noticed that these are two *external* applications, a class of remedies which may be tested quite easily without having recourse to experiments on animals.

The author's insistence upon the differences in the effects of drugs on men and animals goes too far. In the case of a new drug, it is certainly desirable that its effect should be tried and its dose at least approximately estimated by its action on animals, and in spite of the exceptions of which he makes so much use, it is generally possible by experiments on mammals to obtain valuable information. For example, it is a great *desideratum* to find a hypnotic which will not upset all the secreting glands like opium or depress the circulation like chloral. Sulphonal is the name given to a compound discovered by Baumann and which was proved by experiments on dogs to have no depressing effect on the circulation; it was then tried on men with good sleep-producing effects, and the result is that, although it is not a perfect hypnotic, we possess a drug which can be given with safety in cardiac disease, pneumonia, and acute rheumatism to procure sleep without risk of increasing the already existing weakness of the heart's action. This is only the most recent but not the best of many similar examples to be found in the history of therapeutics for the past twenty years.

The author asks his readers to admit "that the anti-vivisectionists may not be such fools after all." We may out of courtesy admit this, but if they have such a good case why can they not be content to be *truthful*, to state facts correctly and fully without misrepresentations or suppressions; and to be *logical*, avoiding

the use of abusive adjectives which in each case imply a *petitio principii*. They must also face the difficulty that all advance in knowledge is attained by "trials," always dangerous, often painful or even fatal to those who make them; and that such trials must be made on animals and men unless we are to sacrifice all progress to a sentimental dread of inflicting pain which is inconsistent with normal mental vigour.

There is something excessively silly in this attempt to laud the popular method of discovering drugs at the expense of the scientific method. That some useful remedies have been discovered by this means no one disputes; but that the popular remedies all over the world have been for the most part injurious to the patient, ineffective, often dangerous, and not seldom disgusting and barbarous, cannot be denied. That out of these innumerable hazardous popular experiments, carried on for thousands of years, some few good remedies should have been obtained is not to be wondered at; but we have no record of the number of lives sacrificed or the amount of misery inflicted by these brutal and ignorant proceedings.* Granting fully that pharmacological experiments on animals have produced much less valuable knowledge than was at one time hoped, these experiments were undertaken with the benevolent object of alleviating *human* suffering and sparing *human* pain; while it may be confidently claimed that the scientific method, of which such experiments constitute only a small part, has produced more good remedies during the last twenty years than were discovered in the previous twenty centuries of non-scientific experience.

* See an article on Fijian Medicine referred to on page 102 of this vol.

THE PHYSICIAN AS NATURALIST.*

PROFESSOR GAIRDNER occupies a unique position among British physicians, for he is the only one who has, for more than thirty years, made the exposition of the science and art of medicine the main purpose of his life. Occupied in the instruction of a large class in a great school, he has neither sacrificed this duty to the claims of practice nor, by applying himself unduly to one department of disease, withdrawn his mind from the consideration of the whole field of medical practice. Moreover, he has for many years stood apart from the crowd of competitors engaged in the controversies of his times, as if he felt better able to criticise dispassionately, and select what is true from what is false and doubtful in this position than if he engaged as a combatant himself. His class has no doubt gained immense advantage from this judicial attitude of mind, and the profession duly appreciates the importance of his utterances when he has found opportunity to express the results of his mature reflections. In this volume of essays are collected together most of the speeches and addresses in which Professor Gairdner has embodied his thoughts upon the progress of contemporary medicine, and we heartily commend them to the attention of our readers as affording a kind of mental food which is not supplied very abundantly in these busy times, when so few will give themselves the time to ponder over what is going on about them. The man who has read them carefully and thoughtfully, letting them sink into his mind and germinate there, will find that he has been led away from the business of patients and fees into pleasant academic places in which his mental vision has been enabled to get a glimpse of what constitutes this wonderful combination of

* The Physician as Naturalist. Addresses and Memoirs bearing on the History and Progress of Medicine chiefly during the last hundred years. By W. T. Gairdner, M.D., LL.D. Glasgow: James Maclehose and Sons. 1889.

all knowledge with tradition and experience that we call the practice of medicine ; he will, we hope, feel that it is not to be found in the advertising pages of medical newspapers or in the pharmacopœia, or in the systems of fashionable physicians ; that no knowledge can be wide enough to compass it, no industry great enough to master it, but that if we lay aside our prejudices and seek the truth as it is in Nature, little by little this will be revealed, not wholly to us, perhaps never entirely, but yet so as to make us as a profession increasingly able to minister to the sick.

A TEXT BOOK OF PATHOLOGY.*

THIS book aims at being very much more than any other single work on pathology in the English language, and it is, on the whole, likely to fill a gap which has been very conspicuous for some years past in our medical literature. We allude to the want of a thoroughly good and complete work on general pathology, which we trust this book will supply. The present volume contains (1) a detailed description of the method of making a *post mortem* examination, (2) the mounting of preparations for the museum, hardening, section cutting and histological methods, (3) practical bacteriology, (4) a description of certain general pathological processes, from which we notice the omission of fever, but this may be dealt with under some other heading in a later volume, (5) a description of diseases of the various organs and tissues, in which tumours, blood diseases, the heart and blood vessels are alone described in this volume. Under the blood the pathology of anæmia, diabetes, rheumatism,

* A Text Book of Pathology, Systematic and Practical. By D. J. Hamilton, M.B., F.R.C.S.E., F.R.S.E., Professor of Pathological Anatomy. University of Aberdeen. Vol. I. London : Macmillan & Co. 1889.

gout, purpura, uræmia, &c., are very fairly, though not very fully, discussed; nor can we always assent to the doctrines laid down as representing the present state of knowledge. The description of diseases of the heart includes a consideration of the effects of various valvular lesions with cardiograms, and diseases of the arteries in a similar way includes alterations in the pulse with sphygmograms. The book is throughout profusely illustrated, and admirably printed. Each section has a bibliography attached to it. But there is a method adopted of referring to papers in the text by means of numbers corresponding to a list at the end, which we have found inconvenient. The volume contains an appendix on methods of making casts, models, etc. It would be ungenerous to point out faults in such an encyclopædic work as this, the preparation of which must have involved great labour; but in truth there is very little with which to find fault, and a very great deal worthy of the highest praise. Dr. Hamilton is well known as perhaps the most successful teacher of pathology in this country—one who has devoted himself entirely to this subject to the exclusion of clinical medicine or the cares of practice. We do not think that such a divorce of pathology from clinical medicine is likely to be good for either or for the students who have to learn the subject so taught; but it has unquestionably permitted Dr. Hamilton to give an amount of attention to pathology which would perhaps have been otherwise impossible, and this book is one of the good results of this species of devotion.

THE TREATMENT OF LATERAL CURVATURE OF THE SPINE.*

MR. ROTH is well known as the strenuous advocate of the "physiological" treatment of lateral curvature as opposed to the "mechanical." The present monograph describes his method of treatment at some length, though most of the ideas have been presented before, either at the medical societies or in current literature. Most surgeons wisely ignore the cumbersome and time-consuming machines for recording the deformity existing in lateral curvature, but the plan here recommended is so simple and so quickly applied that it should be generally adopted, the only apparatus required being a metal tape made of pure tin.

Instrumental supports are absolutely condemned in all except paralytic cases, the general principles of treatment being summed up in—(1) Re-education of the patient's muscular sense; (2) Improved position in sitting or standing; (3) Attention to dress; (4) Systematic exercises for the muscles; (5) Attention to general health; (6) Prescription for exercises at home when not under surgeon's supervision. Much stress is laid upon "the best possible posture," that is, the position in which the patient's trunk and limbs should be placed to obliterate the deformity as far as may be. This, it is said, may be taken both as a fair indication of the improvement to be expected from treatment and as the "key note" of the exercises to be practised. Three cases are described in detail, and a short appendix on flat foot follows. We can strongly recommend this little volume as clearly and concisely describing the rational treatment of what has been and is a frequent reproach to surgeons.

* The Treatment of Lateral Curvature of the Spine. By Bernard Roth, F.R.C.S. London: H. K. Lewis.

A HANDBOOK OF SURFACE ANATOMY AND LANDMARKS.*

THIS little book is exactly what its author says of it in the preface, it "is intended for Anatomical Students in their first and second years as a guide to that important portion of the knowledge of the human body which can be gained without the use of the scalpel and forceps." And we are pleased to find that the importance of a knowledge of surface markings, and the relation to the exterior of the various important deeper structures are pointed out. The description of certain surgical procedures that can be learnt in the dissecting room, for instance, how to pass a Eustachian catheter, is a welcome addition to a work on surface anatomy. Directions are given for the examination of the various orifices of the body; a knowledge of what may be felt by a digital examination of some of these is sure to prove useful when the student attends the out-patient room or wards; indeed he will find that in certain cases a satisfactory diagnosis is not possible unless this simple, but often neglected, method is used.

We naturally expect in a recent treatise on surface anatomy to find full directions for finding the more important cerebral fissures, and in the work under review these are given (after Reid) with a minuteness of detail that must satisfy the most eager worker in this field. There are also diagrams shewing the areas of distribution of the various cutaneous nerves. Obviously it is impossible to introduce many new facts into any work confined to the description of what can be seen and felt on the living subject, but it is eminently satisfactory to find that in Professor Windle's work there is a completeness of detail and an absence of inaccuracy that will at once place it on a sure footing, and enable those for whom it was written to depend upon it as being a safe guide. We can therefore strongly recommend it, and we trust that before long it may have a wide circulation.

* *A Handbook of Surface Anatomy and Landmarks.* By Bertram C. A. Windle, M.A., M.D. Dubl., Professor of Anatomy in Queen's College, Birmingham. London: H. K. Lewis.

EXPLORATION OF THE CHEST IN HEALTH AND DISEASE.*

THIS is a manual of physical diagnosis by the Professor of Clinical Medicine and Physical Diagnosis in the New York Post-graduate School. We have much pleasure in saying that it seems admirably adapted for the purpose of conveying simply and definitely just the right sort of instruction. The author evidently possesses the necessary knowledge, and has expressed it well. There are plenty of good illustrations, and the type is clear. We think it may be doubted whether such an expression as "broncho-vesicular" is a good addition to the already redundant terminology of forms of respiration, and we doubt very much whether the left auricle, even "in thin people," can ever cause a pulsation "near the left edge of the sternum in the second and third intercostal spaces!"

ON SYPHILITIC AFFECTIONS OF THE NERVOUS SYSTEM; THEIR DIAGNOSIS AND TREATMENT.†

THIS brochure contains many interesting cases of syphilitic disease of the nervous system ably and fully described. The articles on the diagnosis and treatment are excellent. The author opened the discussion on "The Diagnosis and Treatment of Syphilitic Affections of the Nervous System" at the annual meeting of the British Medical Association held at Glasgow last

* *Exploration of the Chest in Health and Disease.* By Stephen Smith Burt. M.D. New York. London: H. K. Lewis. 1889.

† *On Syphilitic Affections of the Nervous System; their Diagnosis and Treatment.* By T. McCall Anderson, M.D., Professor of Clinical Medicine in the University of Glasgow. Jas. Maclehose and Sons. 1889.

year, and in an appendix to his work he publishes the remarks of the various speakers who took part in the discussion. We recommend the book to the profession as a reliable guide to the diagnosis and treatment of syphilis of the nervous system.

Miscellany.

HOMERIC MEDICINE.—Dr. Kermes (*Annales et Bulletins de la Société de Médecine d'Anvers*) has made an interesting study of Homer from the medical point of view. The army of the Greeks possessed for doctors the two sons of Æsculapius, Machaon and Paralyzius, while both Achilles and Patroclus had drugs in their possession. There is little mention of diseases apart from wounds, the treatment for which consisted mainly in sucking them and applying balsams. The nine years balm of Achilles not only healed wounds but acted as an antiseptic so as to preserve the dead body until it could be burned; sulphur was applied to purify the palace of Ulysses after the massacre of the suitors; the poison of Ephyrus was used to poison drinks and arrows; Helen possessed an elixir, a few drops of which mixed with drink caused all cares to be forgotten; while the philtre of Circe and the fruit of the lotus eaters were very similar in their effects to opium.

ANATOMICAL EPITAPH ON AN INVALID.

The *Medical Age* prints the following :—

Here lies a head that often ached, here lie two hands that always shaken,
 Here lies a brain of odd conceit, here lies a heart that often beat,
 Here lie two eyes that daily wept and in the night but seldom slept ;
 Here lies a tongue that whining talked, here lie two feet that feebly walked,
 Here lie the midriff and the breast with loads of indigestion pressed ;
 Here lies the liver, full of bile, that ne'er secreted proper chyle ;
 Here lie the bowels, human tripes tortured with wind and twisting gripes ;
 Here lies that livid dab, the spleen, the source of life's sad tragic scene,
 That left-side weight that clogs the blood and stagnates nature's circling
 flood.
 Here lie the nerves, so often twitched with painful cramps and poignant
 stitch ;
 Here lies the back, oft racked with pains, corroding kidneys, loins and reins;
 Here lies the skin by scurvy fed with pimples and eruptions red.
 Here lies the man, from top to toe, that fabric framed for pain and woe.
 He caught a cold, but colder death compressed his lungs and stopped his
 breath ;
 The organs could no longer go because the bellows ceased to blow.

Annual Register, London, 1768.

NO GOOD.—Patent medicine man (to Editor) : " You made a nice mess of that testimonial advertisement." Editor : " How ? " Patent medicine man : " John Smith wrote : ' Your Live Forever Pellets are doing me a great deal of good. Send me another box ; ' and I told you to give it a prominent place." Editor : " I did—immediately preceding the death notices." Patent medicine man : " Yes, and the first death notice on the list was that of John Smith."

New Books, etc., Received.

- Exploration of the Chest in Health and Disease. By STEPHEN SMITH BURT, M.D., New York. London: H. K. Lewis. 1889.
- Bournemouth as a Health Resort. By A. KINSEY-MORGAN, M.R.C.S. Eng., etc. With illustrations. London: Simpkin, Marshall and Co. Bournemouth: F. J. Bright and Son. 1889.
- A Surgical Handbook for the Use of Students, Practitioners, House-surgeons and Dressers. By FRANCIS M. CAIRD, M.B., F.R.C.S. Edin., and CHARLES W. CATHCART, M.B., F.R.C.S. Eng. and Edin. London: Master Griffin and Co. 1889.
- The Insane in Foreign Countries. By WILLIAM P. LETCHWORTH, President of the New York State Board of Charities. New York and London: G. P. Portman and Sons. 1889.
- A Guide to the Selection and Adaptation of Orthopædic Apparatus. By F. Gustav Ernst. London: Sprague and Co. 1889.
- The Tocsin. No. 5. London: H. Vickers, 317, Strand, W.C.
- Aids to Ophthalmic Medicine and Surgery. By JONATHAN HUTCHINSON, Jun., F.R.C.S. London: Baillière, Tindall and Cox.
- Heredity: A Study; with Special Reference to Disease. By R. A. DOUGLAS LITHGOW. London: Baillière, Tindall and Cox.
- Defects in Plumbing and Drainage Work. Described by FRANCIS VACHER. John Heywood, Manchester and London. 1889.
- The Diagnosis and Treatment of Extra-uterine Pregnancy. By JOHN STRAHAN, M.D., etc. Philadelphia: P. Blakiston, Son and Co. 1889.
- Lectures on Nervous Diseases. By AMBROSE L. RANNEY, A.M., M.D. Philadelphia: F. A. Davis. 1888.
- The Alienist and Neurologist. Vol. X., No. 2, St. Louis.
- The Physiology of the Domestic Animals. By ROBERT MEADE SMITH, A.M., M.D., Philadelphia: F. A. Davis. 1889.
- Extra-uterine Pregnancy: A Discussion. Philadelphia: William J. Doman. 1889.
- Observations on some Rare Diseases of the Skin. By J. F. PAYNE, M.D., F.R.C.P. London: Smith, Elder and Co. 1889.

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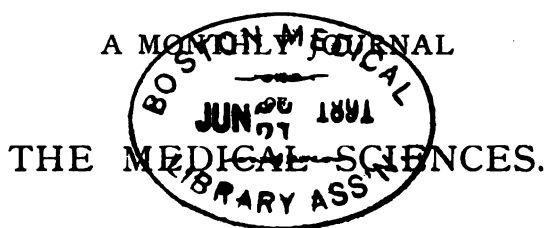
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THE
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Gynæcology,
LAWSON TAIT, M.D., LL.D., F.R.C.S. ENG.
Surgery,
GILBERT BARLING, M.B., B.S. LOND., F.R.C.S.

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THE
BIRMINGHAM MEDICAL REVIEW.

JULY, 1889.

ORIGINAL COMMUNICATIONS.

ON THE VALUE OF THE HISTORICAL STUDY OF
MEDICINE.*

BY D. C. LLOYD-OWEN, F.R.C.S.I.,
PRESIDENT OF THE BIRMINGHAM AND MIDLAND COUNTIES BRANCH
OF THE BRITISH MEDICAL ASSOCIATION.

Gentlemen,—

When I review the inaugural addresses of my predecessors in this most honourable chair, I am impressed by the manner in which each department of our professional knowledge has been by them illustrated and commented upon, and questions, moral, social, and political, affecting us as a body have been exemplified and resolved. The difficulty I felt, when called upon to address you, in finding any untrodden ground and in choosing a topic which had not been previously more ably handled than was within my capability will, I am sure, be manifest to everyone present. Conscious of my incompetence to deal with the burning questions which just now occupy the professional mind, my first impulse was, as may be indulgently conceded, to treat of some subject connected with the special work to which my life is devoted. I was speedily convinced, however, that such a theme was for many reasons unsuited to an occasion like the present. And in casting about for a fitting

* The Inaugural Address delivered at the Annual Meeting, held
June 20th, 1889.

subject, my mind, already, and perhaps always, too much occupied with the contemplation of things of the past, came to dwell upon the fact that, owing to the vast and rapid strides made in accumulating information and in opening up new areas of knowledge, we are too apt in the present day to neglect the lessons to be learnt from the history of our art and from the works and lives of the illustrious ancients. If we think at all of these matters, it is probably only with the feeling which animates the mass of mankind in visiting a museum of antiquities, for the most part a formal, now and then perchance an indulgent, curiosity. We are not prepared to allow the work and records of the ancients more than a very meagre contributory value in the building up of the fabric of our modern knowledge. Some of us even, with a fine emulation of Mrs. Hardcastle's contempt for "such old-fashioned trumpery," may consider such subjects as unworthy the occupation of our vacant moments, much less our serious hours. Others there are, happily, who feel, with the reverent and loving students of antiquity, that in a comparative knowledge of the past lies the surest foundation for an adequate appreciation of the present; that in medicine, as in other branches of learning, we are less likely to become the victims of blind adherence to the authorities of any particular epoch if we are fairly acquainted with the products of the thought and labours of all. And more than this, that a really comprehensive education in our art ought to rest upon the groundwork of a true knowledge of its history, and be pillared by the wisdom of the ancients. That it is possible for a student to obtain a certain mechanical aptitude, a question-and-answer facility, in dealing with his work without the knowledge that Hippocrates ever existed or Sydenham wrote, speaks for itself; but the difference between his mental grasp of the intricate problems presented to him in his work and that of another more broadly trained, is as great as the varying solutions of the problems of our national development proffered by a learner of "Magnall's Questions" and a student of Hume. This assertion, however, conveys a distinct challenge to the system of medical education

at present in fashion among us, and proclaims it defective in an important particular. It is concerning this *lacuna* in our training, and on some of the advantages to students and practitioners which would accrue from its filling up, that I venture to address you to-day, and to take as the subject of my remarks, "A Plea for the more extended Study of the History of Medicine."

A recent author* says: "To the initiated medicine is something more than a profession; it is a world within itself. It has its history, its philosophy, its literature, of which the world knows nothing." It seems scarcely necessary to insist upon the truth of this utterance at a time when the study of history—that "mirror of human life in all its bearings"—has received such impetus; and, thanks to the devotion of some of our greatest thinkers, has been the means of making manifest that order in human affairs through the knowledge of which alone real and enduring progress can supervene. But the fact that this most valuable aid in our education has not as yet received due consideration from the powers that be over us, urges me to dwell upon the omission.

The study of our origin and progress as an element in the vast current of civilisation is surely a subject deserving our fullest cognizance. Such a pursuit cannot but be profitable as well as pleasant. "To turn at times from the battle of active life to the study of the past," and to the origin and progress of medicine as a particular portion of that study, assists in maintaining definitely in our minds the idea of continuity with the past, which is one of our most precious possessions. For no one period of time, however rich in observers, determines finally questions of research or discovery. New minds contribute new light, and amplify and confirm, or modify or negative, the conclusions of their predecessors. Nature never displays herself in a definitive revelation once for all. Hence the deductions from the experiences of generations are the only trustworthy bases on which to formulate rules for our guidance. To achieve

* Watson—"Medical Profession in Ancient Times."

a steady and restful unity with the past, we must nourish and strengthen in our minds the assurance of the certainty of our continuity. Heyne* says, "To mould the intellect and the taste by the help of the ancients, and to draw thence for our profit valuable information, and to use with understanding of its application this information to the advantage of the present age; these are the motives and the never-failing attractions which excite us to the study of antiquity."

It has been said that medical men† are expected to "have a perception of life as it exists individually and collectively; in the former to bear in mind the general system of creation, in the latter to demonstrate the connection and signification of the individual phenomena; to discern the one by the aid of the other, and thus to penetrate into the sanctuary of cosmical and microcosmical science."

It must be answered, I fear, if question be put as to the fitness of our average training for the attainment of such desirable ends, that, so far as its historical features are concerned, the student has but slender opportunity of acquiring even the rudiments of such knowledge. Even the accounts of individual diseases bequeathed to us by the fathers of medicine, replete as they are with interest and instruction, are, if offered at all in our curriculum, offered only in meagre driblets; whilst the history of general visitations of disease receives still less attention. We need only refer for an example of what may be taught, not only regarding the immediate practical value of research into the causes of general visitations of disease, but also its importance as affording acquaintance with the phenomena of collective organic life, to that most able and erudite work, "Hecker's Epidemics of the Middle Ages." The insight gained from that admirable work, both into the nature of the diseases themselves and into the interdependence existing between those diseases and the moral and social conditions of the peoples attacked, is

* Quoted by Littré—"Introduction aux Œuvres d'Hippocrate."

† Hecker—"Address to Physicians."

exceedingly valuable. And not less valuable than the knowledge of the influences, general and reciprocal, of natural causes on the collective human organism must be a general view of the leading discoveries and revolutions of doctrine which have marked each epoch in the progress of our art. The studies of individual and general diseases with their manifold and intricate relationships, biological and sociological, ought to be methodically arranged for purposes of instruction.

The synthesis we would aim at should be not a mere annotated record, but a philosophical exposition of the various factors in the progress of our art and an intelligible correlation of them, as belonging to a great totality. The result would be that we should be* "better able to understand our own position; to know how far we have advanced; to whom we owe our progress; the labours still before us; and the places we ourselves are likely to occupy in the estimation of those who are to follow us."

"The study of ancient writers," says Littré† "depends for its interest and advantage on the reconciliation which the intellect brings about between modern and ancient science. This reconciliation can only take place under certain conditions which are to be found either in the mental attitude of the reader himself or in the manner in which the book offers itself to his judgment; in the reader when his studies have afforded him access to the doctrines of antiquity, and in the work itself when those doctrines have received such an elaboration as places them in harmony with modern thought."

In the accomplishment of this reconciliation, so clearly described by Littré, an appreciation of the evidences of the continuity in our art and in the aims of its teachers is an essential requirement. To follow the struggles of our early leaders in their endeavours to find solutions of the problems pressing upon them; to mark the continuity of effort, of purpose, of feeling, by which they were animated and sustained; to find amongst the Egyptians, the Assyrians, the Druids, the Greeks,

* Watson, *op. cit.*

† "*Introd. aux Œuvres d'Hippocrate.*"

the Romans, the Arabians, during the middle ages, and throughout the comparatively brief period which has elapsed since the experimental method has prevailed, the same strivings after knowledge, the same honest devotion to the service of humanity, are surely sustaining influences of value in our preparation for the conflict we are constrained to wage with the powerful forces opposed to us.

The progress of medicine was for many ages slow, with many haltings and turnings backward; and the study of these fluctuations in our advance, besides teaching us in many instances which paths to avoid and which to follow, is of use as an encouragement to carry forward the great work. A right appreciation of the failures and disappointments of our predecessors would, I am led to think, operate as a corrective to the restless and unwholesome desire for novelty, which is one of the weaknesses of the present age, and is the outcome of a too analytical mental attitude and a deficient historical training. Such an appreciation would certainly have the immediate practical advantage of pointing out to us that in many instances the value of so-thought discoveries had been determined long ago; and we should thus be saved the absurdity of reviving some exploded theory or resuscitating some forgotten fallacy.

Not one of the least curious researches which might occupy us, a research even directly profitable, might be devoted to finding out how often in the records of our art some old, worn-out notion, clothed in new language and coloured by the mental characteristics of its reviver, had been presented as new, only to meet its former fate—to be relegated to the land of the forgotten—perhaps to be again brought out and furbished up by some enthusiast whose energy overbalanced his acquirements.

But there are innumerable points more directly profitable than this recorded in the works of the ancients—points which, by their agreement with our modern conclusions, help to increase our admiration and respect for our great masters, and points of divergence which serve to place more strongly in relief our advance and our triumphs. For example: It is known to stu-

dents of the history of medicine that many points, which were disregarded until quite recent times, in the situations of our hospitals, and which even now are hardly recognised by the mass of educated persons as of essential importance, were adopted by the Asclepiadæ some 500 or so years B.C.* Their temples, or Asclepions, were both schools of instruction and asylums for the sick, and were so situated and managed as to yield the greatest advantages to those who sought their aid. They usually occupied some elevated and healthy locality, surrounded by shady groves, or the neighbourhood of thermal springs or fountains of medicated water. They were sacred from intrusion, and accessible to the invalid only after purification by fasting, ablution, and inunction. Along the walls near the couches of the patients hung tablets, upon which were recorded the history and treatment of the individual cases of disease, from which the Asclepiadæ collected records, and deduced from them a systematic guide for practice.

Another point connected with these early schools, interesting as an instance of the survivance of a custom, is found in the ceremony used by the teachers in conferring the final degree which gave their disciples their warrant to teach and practise. It was called the ceremony of "Binding the Head," or coronation.† The student admitted to study at the Asclepions passed through at least three degrees. The first, called "Illumination," regarded the study of abstract principles—logical, philosophical, and political; the second, called "Inspection," referred to practical studies; the third, called "Coronation," gave the right to practise.

It is curious how much this ceremony of coronation resembles the capping usual on taking a full degree at some of the Scottish Universities. And in the Italian Universities, still, the ceremony resembles in title, if not in form, the ancient one; for the *Laurea*, the laurel wreath, is conferred on taking the doctor's degree.

* Littré, *op. cit.*

† Watson, *op. cit.*

In these early times the unqualified practitioner was as galling a thorn in the side of the orthodox as he proves to the privileged practitioner of the present day. The injunctions against the itinerant mountebanks and pedlar-priests, as Plato calls them, abundantly shew this. But, after all, it was found that the qualified had, just as really obtains in our times in spite of legal penalties, "no redress and no advantages other than those of a superior education, honesty of purpose, devotion to duty, and the confidence of a discerning public." So this vexed question came to be solved then, as it must be now, not by the safeguard of legal penalties, but by the final decision of educated public opinion.

And now to note one point in particular in which the divergence between ancient and modern opinion stands most distinctly marked. I refer to the different estimate of duty to patients held by the physician of ancient times and that presented for our guidance to-day. With the growth of a higher social ideal has grown an exalted sense of duty, a more unselfish devotion to the service of mankind. Our great leader, Sydenham, taught that the true physician ought always to be ready to serve his patient even at the risk of his own reputation; and this habit of self-sacrifice has become, we are proud to feel, instinctive in our professional life. The standard of professional virtue in vogue among the ancients undoubtedly left much to be desired. But like all *ex parte* charges, the charge against them of consulting their own welfare rather than the well-being of their patients, admits of large qualification. Very frequently the ancient physician was responsible for the non-success of his treatment with his life; and, as history abundantly shews, not rarely suffered death if he failed to cure his patient. In fairness to themselves therefore a certain amount of circumspection in undertaking cases was exhibited. This cruel liability has however turned to our advantage, for it led to especial cultivation of the art of prognosis, a most important branch of our knowledge. For, as may be easily conceived, the determining of a sound prognosis was to them of essential importance.

The apostle of these early ages was, it is needless to say, Hippocrates—the Father of Medicine. Of him Dr. Watson says:• “He was not the inventor of the healing art nor of the modes of teaching it. Examples are often the result of accident, and the best of them, in a practical point of view, rarely the the result of forethought. He who detects the rising spirit of the age, who first gives expression and embodiment, or the power of progress and endurance to the wisdom, feelings, aspirations, customs, or hitherto undivulged opinions of his times is even of more regard than the innovator.”

It is impossible within the limits of this brief address for me to deal, even in the most summary way, with the works of the Father of Medicine. I would commend to the reading of those who are not familiar with it the Address of Dr. Warburton Begbie, delivered at Edinburgh in 1875, on the occasion of the meeting of the British Medical Association in that city.

Permit me however one quotation from the famous work of Hippocrates entitled “On Airs, Waters, and Places.” I quote from a copy sent to me by the late Dr. Burnell, an Indian surgeon, who died a few years ago, all too soon. Speaking of a disease from which the Scythians suffered, Hippocrates says:— “The inhabitants of the country attribute the cause of their disease to a god and venerate and worship such persons as are the subjects of the disease, everyone dreading that the like might befall himself, but to me,” and here the scientific acuteness of the illustrious Greek is evidenced, “but to me it appears that such affections are just as much divine as all others are, and that no disease is either more divine or more human than another, but that all are alike divine, for each has its own nature and no one arises without a natural cause.”

Had the luminous idea conveyed in this quotation been kept constantly before the minds of the successors of Hippocrates, how much more rapid would have been the progress of medicine! It would have been raised above the mists of superstition and credulity, and would have shone clear in the light of

* *Op. cit.*

Nature. It is as if one heard Bacon say, "*Knowledge is power*," or Galileo, "*E pur si muove*."

The *dictum* of the ancients concerning the preliminary education which students ought to undergo before entering on their courses of special study is very clear and emphatic. In striving in the present day to maintain a high standard of preliminary education for our students, we are only following the lead of the ancients. The earnest contentions in later times for an extension rather than an abridgment of the curriculum deserve our warmest support. It would be better for the profession generally, and immensely to the advantage of each individual concerned, if a more extended course—æsthetic, intellectual, and moral—arranged on sound, philosophic principles, were insisted upon by the authorities. The words of Hippocrates on this point are of sterling worth. Writing to his son respecting his education, he says, "Give due attention, my son, to geometry and arithmetic; for such studies will not only render your life illustrious and useful to your fellow-beings, but your mind more acute and perspicacious in arriving at fruitful results in everything pertaining to your art." And what Hippocrates counselled his son to do he himself had done before him; for he was, we know, skilled in logic, astronomy, rhetoric, and the other sciences.* And what is true of the Father of Medicine is true of Galen, who was the *beau idéal* of an accomplished physician, skilled in all the sciences of the day; and also of Celsus, who was regarded by his contemporaries as minutely skilled not only in medicine, but in every elegant and useful science which was known and cultivated at the period in which he lived. The same may be said of Oribasius, Paulus Ægineta, Fabricius de Aquapendente, and others of the earlier and later lights; and emphatically of our own phalanx among the immortals—Linacre, Caius, Harvey, Sydenham, Hunter, and others nearer to us in point of time. The safest practitioner and the soundest teacher of our art and science is he whose training has covered the widest range.

* Adams—Preface to translation of works of Paulus Ægineta.

Not one of the least interesting subjects which attracts notice when reviewing the early history of our art is the picture it presents of early specialism. Every now and then, as time goes on, some well-meaning person makes a furious onslaught on what he thinks to be the new-born development of specialism. A superficial acquaintance with the history of medicine would have taught him that specialism, with all its uses and abuses, is as old as the practice of medicine itself; certainly as old as any records of medicine handed down to us. Herodotus* tells us that among the Egyptians each physician applied himself to one disease only. All places abounded in physicians, some for the head, others for the eyes, others for the teeth, others for the parts about the belly, and others for internal diseases. And in later times, when the medical school of Alexandria rose to fame, the division of labour was equally minute. It was here that the first great divisions of specialism, the divisions into medicine, surgery, and pharmacy became firmly established and legitimised. Among the Romans specialists were limited in number; and this may be easily understood by a consideration for a moment of the national characteristics as compared with those of their Greek predecessors. There always have been, however, and it appears to me always will be, those among practitioners who, by virtue of special fitness or by the irresistible influences of environment, will be carried into definite and restricted lines of practice, and this, we trust, with some advantage to the community. But it must be pointed out that the limited domain of true specialism is invaded and ravaged by the *feræ* of charlatanism, just as is the case in the wide realm of general practice, and with the natural result that the devastation is greater in the smaller area. It must be the constant care of our teachers that the choice of a special branch of work shall be possible only after ample general training. Specialism in practice must not be synonymous with specialism in education—a confusion generally made by the wiseacres who rail against all specialism.

* Book ii., chap. vi.

These references to specialism in its various aspects would naturally lead me on to say something concerning the knowledge of the diseases of the eye possessed by the ancients. But in a brief address, such as this must necessarily be, it would be impossible to compare with justice the inchoate conceptions of the ancients with the perfected ophthalmology of the present day. They knew much more of the external diseases of the eye and of operative procedures than would at first glance be believed, and they had an elaborate therapeusis. But the more we study the works of the ancients the more certainly we arrive at the conclusion, that it is in the knowledge of the spirit animating their works, rather than in the immediate practical advantages to be gained, that the chief value of the study lies. With their rudimentary knowledge of anatomy and physiology, their ignorance of pathology, and their lack of instruments of precision, they do not help us much in practical details. It is from the study of their methods that we are the gainers. In the emphasis they laid on the necessity for exact observation and comparison of clinical facts, on a painstaking therapeusis, and especially on the vigorous cultivation of the art of prognosis, it is that their excellence consists.

Tracing downwards the history of Medicine through the centuries it is interesting to note how, like her greater sister Divinity, Medicine has reflected in her growth the influence of the concurrent philosophies. At its beginning our art was probably purely empirical and then, influenced by the various forms of speculative philosophy, it became more and more analytical; until, with the advent of the experimental philosophy, of which Galileo, Bacon and Newton were the first great exponents, it assumed new vigour and became justly entitled to rank as one of the true experimental sciences.

In the appreciation of these facts lies the answer to an indictment which has time after time been brought by the half-learned critic against the pursuit of the study of medicine; namely, that since from the time of Hippocrates down to the sixteenth century of our era but little advance in knowledge in the

modern sense was made, therefore the history of that period is worthless. A sufficient answer to this charge is I think conveyed in the plea that Medicine during the period designated was bound hand and foot by the current philosophies, and by speculations theurgic, theosophic and occult; and that the study of medicine in its relation to these influences, besides its practical utility in separating the grain from the husk, is valuable as affording an acquaintance with the evolution of philosophy.

In this light the association of medicine in mediæval times with alchemy, Rosicrucianism, and magic forms not one of the least interesting extensions of the field of study. To the alchemists we owe the discovery of many useful chemical substances, but their credulity and their mingling of the mystical and imaginative with the real, detract greatly from their works as substantial contributions to the progress of medicine. Yet they taught us the vast importance of chemical investigations, and through their discoveries many new chemical remedies were introduced into the practice of medicine. But more than this has been claimed for them; it is held that by their investigations and their daring departures from the formal edicts and ordinances of the ancients, they assisted in opening the way to more accurate knowledge. The works of Geber, Albertus Magnus, Agrippa, Paracelsus, and Jerome Cardan abound with useful maxims mingled with what appears to us the veriest nonsense. An admirable picture of the thought and work of this period is given in Prof. Henry Morley's *Life of Cardan*.

Many of the beliefs which originated in this period doubtless still exist among the people. One instance of this survival has come under my notice not infrequently. Patients suffering from various forms of eye disease tell us that before seeking our advice they have used a popular herbal remedy called *Eyebright*—the *Euphrasia*. Now the use of this plant in diseases of the eye is a survival of the whimsical doctrine of signatures, invented by Paracelsus. This doctrine of signatures rested upon a supposed fitness in the remedy from some real or fancied resemblance in shape or colour to the organ affected; or upon some

fancied relation between the astrological government of the remedy and that of the part of the human body to which it was applied; and eyebright was a good remedy for diseases of the eye because there is a little black dot upon the corolla which, with the aid of a vigorous imagination, looks something like the pupil of an eye. As good a reason, some cynic may exclaim, as that given for the fitness of more than one vaunted remedy of modern times. This I would not dispute. Taken all throughout it may be said that this period of the history of our art offers an attractive field to the students of folk-lore and popular medicine, as well as to those interested in occultism.

Still it must be unhesitatingly conceded that this period offers no comparison in value to that immediately succeeding it, when the experimental method gained sway, and Nature came to be accurately observed and understood. Then medicine was freed from the trammels of centuries, and its reorganisation begun on a rational-synthetic basis. And Vesalius, Fallopius, Eustachius, Sylvius, Harvey, Willis, and many other sterling workers, by their investigations in anatomy, physiology, and the natural sciences, prepared the way for the illustrious pioneers of our modern practice, among whom stand out prominently Sydenham, Boerhaave, Haller, Fabricius de Aquapendente, Alpinus, Paré, Morgagni, and John Hunter.

The mention of these glorious names brings me to the consideration of one most important branch of the history of medicine, a branch without which the tree of our knowledge would be singularly incomplete. I refer to the study of the lives of the famous men to whom we owe the foundations of our knowledge, and the fruits of whose labours we inherit. It has been well said* that "in all ages the biographies of great men have been fruitful in lessons; in all ages they have been powerful stimulants to a noble ambition; in all ages they have been regarded as armouries wherein are gathered the weapons with which great battles have been won." It is well known

* George Henry Lewes—"Life of Goethe."

that the leaders of men make deeper and more lasting impress on their fellows by example than by precept. Hence the value in our education, whilst assimilating the precepts of our great teachers, of learning all we can of their lives, their actions, their fortunes, so as to add as far as possible to the reception of their teachings the conception of their personalities. This object full and accurate biographies ought to enable us in great measure to accomplish.

Gentlemen,—In these remarks I have traversed in a very desultory manner some of the lines of thought which would naturally suggest themselves to one urging a plea such as mine—and the following conclusions present themselves to me :—First, that the neglect of the study of the History of Medicine, which is now so general, is due to an imperfect appreciation of the advantages to be gained from the pursuit.

Second, that the advantages are real and practical. That besides being of direct value in the details of our work, this study helps to cultivate our minds in the sense in which all historical training operates, namely, by sharpening our powers of observation and investigation, by teaching us the necessity of accuracy, and by bringing before us in clear light the connection and relation of cause and effect in the progress of human life.

Third, it affords us the great moral advantages of a knowledge of the personalities of our great teachers.

Now it is never sufficient to find a fault without proposing a remedy. And the remedy which I have to advise—it is no new one—is the establishment in every University and every medical school of a professional chair of the History of Medicine. I cannot conceive that there can be any difficulty attending the carrying out of this scheme other than that of obtaining the approval of the governing bodies of those institutions. There would not be any difficulty in finding men fitted and eager to devote themselves to the work. And if it be objected that there is no room for such training in the crowded curriculum of the student, I would suggest that it be made a subject for the last summer session when it would be in keeping with his studies at

that date. It would then be no longer possible for the student to leave his school knowing little more than the names, (often I fear hardly so much), of the great men whose work has made it possible for him to learn what is essential to the performance of his duty. And if this subject could not be brought within the ordinary curriculum there still remain the post graduate courses which are now finding such favour, and promising to attain a definite and permanent position.

Gentlemen,—I am painfully conscious how feebly I have urged the plea to which this address is devoted. Would that my advocacy had been abler, my powers more worthy! I trust, however, that, besides its specific intention to influence the plan of education of our students, it may be the means of inducing us to turn our minds for a season to the works and lives of our great exemplars, their high hopes and earnest strivings, their failures and their successes, and that in so doing we may find our own resolutions strengthened, new desires awakened, and perseverance in our labours stimulated and rewarded; that we may be touched with a spark of that sacred glow of enthusiasm, that Promethean fire, with which our illustrious ideals were themselves animated.

NOTE ON A CASE OF ETHER ANÆSTHESIA.

BY C. E. PURSLOW, M.D., LOND.

A SHORT time ago I had occasion to give ether to a patient who was suffering from severe jaundice, and I was struck by the unusually long time which elapsed before consciousness and reflex action returned after the anæsthetic.

The patient, a man æt. 34, a farmer, was operated on for an enlargement of the gall bladder, which was opened and drained; he had suffered from jaundice for six months, and at the time of the operation the discoloration of the skin was very severe, and was assuming a greenish tinge.

The ether was administered in a Clover's inhaler, the patient going under its influence very quietly and taking an average length of time to become unconscious. The operation lasted about half an hour, complete anæsthesia being maintained until the stitches were inserted. Two ounces of ether were inhaled.

The breathing and pulse throughout remained slow and regular. After the inhalation ceased, half an hour elapsed before any conjunctival reflex could be obtained, and more than three quarters of an hour before any reflex could be got by pinching the face, the patient breathing placidly all the time; after this he gradually came round, but had no vomiting.

I should mention that both eyes were tried for conjunctival reflex, as I have found by experience that when one eye alone is touched the nervous chain becomes, so to speak, wearied and reflex closure will not ensue, although it occurs at once on trying the other eye. The pupils were moderately dilated throughout.

I conclude that the presence of bile in the blood was the cause of the unusual length of time during which the nervous system remained under the influence of the anæsthetic, as the quantity of ether given was small, and in numerous cases in which I have administered it in the same way I have never before seen so long an interval elapse before consciousness returned.

REPORTS OF CASES.

TWO CASES OF TEMPORARY MYDRIASIS.

BY ROBERT SAUNDBY, M.D. EDIN., F.R.C.P. LOND.

Case 1.—Mydriasis ; Cycloplegia ; Headache ; Vomiting ; Recovery.

Walter H., aged 6, was brought to me as an out-patient on Oct. 21st, 1884, complaining of constant blinking. His pupils were dilated. His mother said that he had been sick several times, and that he appeared to have a headache. He had been ill for eight weeks, but had not had medical advice, having from time to time stayed away from school and got better with rest. He had always been bright and quick at his lessons. He was one of four children; all the others were well; but a maternal uncle was in an asylum and had had fits; his father was highly neurotic; out of eleven children by the first wife only three were living, two of these were imbecile and the other was extremely hysterical. His pupils were widely dilated, especially the left; they reacted to light imperfectly, and not at all to accommodation. There was entire failure of accommodation. Ophthalmoscopic appearances normal. H. $\frac{1}{4}$ in each eye. V. = $\frac{15}{xv}$. His hands were cold; tongue clean; bowels rather loose; appetite very greedy; never had worms. Physical signs in thorax and abdomen normal. Urine free from albumen and sugar.

Oct. 28th. Better; pupils very mobile; the left rather larger still; no more sickness.

Nov. 4th. Pupils normal.

Case 2.—Mydriasis ; Cycloplegia ; Headache ; Vomiting ; Recovery.

Isabella J., aged 12, school girl, was admitted into hospital on May 8th, 1889, complaining of frontal headache, sickness and giddiness. Five weeks ago she was kneeling down cleaning

the grate, when a violent pain came on in the right frontal eminence; she felt very sick and giddy. The pain lasted all day, and she had had several similar attacks since, some of them coming on just after she had gone to bed.

Up to the beginning of this illness she was quite well. Her grandmother said that seven years ago she received a blow with a stick on the top of the head. On April 23rd she was brought to the Eye Hospital complaining of dimness of vision and seeing double. Dr. Young found that she had mydriasis, with paralysis of accommodation and diplopia for distant objects; $V. = \frac{5}{7}$; ophthalmoscopic appearances normal. He thought the condition was due to atropine, and sent her away for a week, after putting in some eserine drops. At the end of a week she was no better; so she was sent to Dr. Saundby at the General Hospital.

She was a well-developed fairly well-nourished child of dark complexion, with brown hair and blue eyes. There were pigmented patches over the toes, insteps, and knees, where there had been pressure from the clothes or posture, and also in the groins and axilla, the vulva and neck. The mucous membrane of the mouth was not discoloured. She said her mother had remarked that she was getting darker.

P. 120, R. 18, T. 98°. Tongue a little furred; bowels confined since admission; abdomen normal; no pain or tenderness in loins; liver dulness in V. M. L. 4 in.; splenic dulness in M. A. L. 1 $\frac{3}{4}$ in. Heart and lungs normal.

She said her eyesight had been failing for the last six weeks; her pupils were widely dilated and reacted neither to light nor accommodation; the diplopia had disappeared; ophthalmoscopic appearances normal. Urine, acid, 1019, a faint haze of albumen, no sugar.

May 10th. Eyesight much improved; could read small type quite well and see distant objects perfectly.

11th. Eserine discs put in eyes at 12 noon; the pupils began to contract at once and remained so for six hours, when the effect passed off.

13th. Pupils smaller; begin to react to light and accommodation; eserine used daily.

18th. Right pupil smaller than left; both react well to light and accommodation; eyesight quite normal; no sickness, giddiness, or frontal headache since admission.

19th. Discharged cured.

June 4th. She keeps quite well; and the pupils are normal.

Remarks—In the absence of any evidence of the use of such a poison as atropine, belladonna, muscarine, etc., in their duration, in the diplopia of the second case, and in the concurrent sickness and headache, there are good grounds for regarding these cases as examples of mydriasis with cycloplegia of central origin.

Of the nature of the lesion one can say little; it resembled greatly the disturbance of migraine, its effects being equally transient, but differed by being symmetrical instead of unilateral.

SOME CASES OF HÆMO-PERICARDIUM.

BY W. ARNOLD EVANS, M.D. LOND.,
HOUSE PHYSICIAN, WOLVERHAMPTON GENERAL HOSPITAL.

THE following cases are, I think, of sufficient interest to be placed on record. They form a series which has occurred in the practice of the Wolverhampton General Hospital during the last two years, the common feature of which is rapidly fatal hæmorrhage into the sac of the pericardium. Three of them were caused by the rupture of a small aneurism of the first part of the aorta, one was due to the giving way of an atheromatous ulcer in the same situation, another to the bursting of an aneurism of one of the coronary arteries, and the last owed its origin to a penetrating wound of the heart. Briefly stated they are as follows:—

Case 1.—J. D., æt. 5, admitted January 29, 1887, under the care of Dr. Malet. He was a pale, emaciated, feeble child, with scarcely sufficient strength to walk. According to the

statement of his parents he had suffered from intense thirst and copious diuresis for about three weeks. Enormous quantities of pale clear urine were passed, the specific gravity of which was 1002 and free from sugar and albumen. No abnormality could be detected in the thoracic organs. When attempting to sit up in bed on the morning of February 1st, he complained of sudden pain in the chest, fell back and died immediately. At the autopsy the pericardium was found distended with about five or six ounces of blood-clot. A softened spot, surrounded by ecchymosis, was discovered in that part of the wall of the left ventricle which is overlapped by the appendix of the left auricle, the appendix itself being discoloured externally but its internal surface healthy. A probe passed along the left coronary artery from the aorta appeared at this softened spot, and on dissection the calibre of the artery was here seen to be increased and the arterial walls attenuated; the aneurism thus formed being about the size of a pea. It was clearly from a rupture of this aneurism that the hæmorrhage had occurred.

This case is, I think, a decidedly rare one. I have been able to collect nine such cases, a *résumé* of most of which by Dr. Crisp will be found in the twenty-second volume of the *Transactions of the Pathological Society of London*, but in most of them the subjects had reached an advanced age, and the chief interest attaching to this particular case is the early age of the patient.

Case 2.—R. L., æt. 37, was suddenly seized with a pain in the chest whilst at work; he was immediately conveyed to the hospital but on arrival was quite dead. The ascending and transverse parts of the aortic arch were enormously dilated and had several aneurisms springing from them, one of which pressed on the pulmonary veins. On the inferior aspect of one of these aneurisms was an aperture communicating with the pericardium; it had thin ragged edges and barely admitted the tip of the little finger. The pericardium contained about fifteen ounces of clotted blood. The lungs were œdematous and the arterial system diseased generally.

The interesting point in connection with this case was the immunity (with the exception of a slight cough for a few days) from any serious or distressing symptoms till the time of the man's sudden death.

Case 3.—William J., æt. 39, admitted under Mr. Manby for burns of the chest and back. I was called in consultation concerning this case by my colleague, Mr. Gough. The patient had been seized during the morning by an attack of syncope, from which he rallied a little later; but he became worse again during the day and gradually sank, dying the same evening. From the symptoms presented, chiefly increasing anæmia, a diagnosis of internal hæmorrhage was made. After death the pericardium was found to be distended with about 15 ounces of clotted blood; the first part of the aorta was dilated to the size of a Tangerine orange, and communicated by a small aperture with the sac of the pericardium; the greater part of the interior of the aneurism was lined by pale fibrinous material to the depth of about a quarter of an inch. The heart was small, weighing only nine ounces, and its valves healthy. Here, again, in this case, the patient was apparently in good health, and followed his occupation up to the time of the accident for which he was admitted.

Case 4.—A. B., æt. 19, was brought to the hospital after having received a penetrating wound of the heart about twenty minutes previously. He was quite dead. There was a punctured wound in the fifth intercostal space about $1\frac{1}{2}$ in. internal to the left nipple. The knife, or whatever instrument inflicted the wound, had entered the anterior surface of the heart about 2 in. from the apex, opening the left ventricle and perforating the intra-ventricular septum. The pericardium contained about eight ounces of blood clot. Owing to a wound of the edge of the left pleura where it overlaps the pericardium, about ten ounces of blood had escaped into this cavity.

Case 5.—E. F., æt. 45, admitted Feb. 22nd, 1889, under the care of Dr. Totherick. This patient was admitted for general œdema, thought to be renal in origin. He died suddenly the

same night when trying to sit up in bed. At the *post mortem* examination the heart was seen to be hypertrophied, but the valves competent; the pericardium contained about eighteen ounces of clotted blood. The first part of the aorta was dilated, chiefly on the posterior aspect, where were situated two atheromatous ulcers, each about the size of a shilling, the inferior of which had given way, the aperture thus formed admitting the tip of a No. 8 catheter. The whole of the arterial system shewed signs of degeneration, several ulcers being found in the abdominal aorta.

Case 6.—P. M., æt. 40, was brought to the hospital dead on 13th April, 1889, having a short time previously fallen from a cart which he was driving. At the autopsy the pericardium contained about six ounces of blood clot. The intra-pericardial part of the aorta was dilated, and at one point a smooth, attenuated patch had given way and allowed hæmorrhage to take place. The heart was hypertrophied, and the valves contained atheromatous deposits.

In addition to the interest these cases afford to the pathologist they shew that the bursting of an aneurism or of a large blood-vessel is not an uncommon cause of sudden death, and it is quite possible that such cases may sometimes be ascribed to fatty disease of the walls of the heart when a *post mortem* examination is not made. Many similar cases, too numerous to mention, may be seen reported in the earlier volumes of the *Transactions of the Pathological Society*. In many instances the immediate cause of the rupture is, doubtless, some muscular exertion on the part of the patient, but the high arterial tension found in some forms of Bright's disease, and from which some of the above reported cases suffered, would materially add to the danger of the condition

PERISCOPE.

THERAPEUTICS.

BY ROBERT SAUNDBY, M.D. EDIN., F.R.C.P. LOND.

Electrical Stimulation of the Heart in Man.—John A. Mac-William (*Brit. Med. Journal*, Feb. 16th, 1889).—The author believes that stimulation of the heart may be at times of service in cases of imminent failure.

"In order to do this in man, one electrode should be applied in front over the area of cardiac impulse, and the other over the region of the fourth dorsal vertebra behind, so that the induction shocks may traverse the organ. The electrodes should be of considerable extent (for example, large sponge electrodes), and they and the skin should be well moistened with salt solution. The shocks employed should be strong, sufficient to excite powerful contraction in the voluntary muscles."

"Such a method," he says, "it seems to me, is the only rational and effective one for stimulating by direct means the action of a heart which has been suddenly enfeebled or arrested in diastole by causes of a temporary and transient character. Of course, at the same time, the expedient of artificial respiration must by no means be neglected, but, on the contrary, most sedulously attended to."

An Old Highland Form of Massage, Popularly Practised for the Prevention of Consumption.—The Rev. D. T. Masson, M.A., M.D. (*British Medical Journal*, April 20th, 1889).—All over the counties of Ross, Sutherland and Caithness there was practised in my early days a form of chest massage for the prevention of consumption.

The *modus operandi* was as follows:—The patient, stripped to the loins, was seated on a high stool, while the operator—usually a strong, healthy, muscular woman—stood behind. The patient was first made to raise his arms and join hands over the

top of the head or behind the neck. The operator now advanced a hand on each side of the patient, from behind forwards, till both her hands met over the third and fourth segments of the sternum, whence, with firm, equable pressure, her palms, lubricated with sweet fresh butter, were swept downward and backward, following the line of the lower border of the chest. After two or three similar passes of the operator's palms over the same region, and with increasing pressure, her fingers were slightly curved downwards and inwards, so that in the sweep from sternum to spine the lower border of her palm, and especially the outer side of the little finger and tip of the fourth, were to some extent hooked under the lower border of the chest. Little by little this action was accentuated, till, in the backward sweep of the operator's palms, her fingers were pushed well under the lower border of the chest and the false ribs, pulling them steadily outwards. After this the backward sweep of her palms was carried step by step up the chest, sweep after sweep coming nearer the clavicle, where again the tips of the fingers, though in a modified way and to a greatly lessened extent, played the same part as they had been made to play at the lower border of the chest. And now came the critical part of the operation. In most persons, even while yet young, the xiphoid cartilage tends greatly to curve inwards into the abdomen. To the in-growing xiphoid, therefore, she now paid special attention. While her thumb made a succession of short steady passes, with considerable pressure, over what in young persons may be called the sterno-xiphoid articulation, her fingers watched their opportunity to get in under the free end of the xiphoid, so as to pull it outwards, and thus by continued and repeated manipulation to train it, as it were, into a more healthful direction. This manipulation was again very energetically practised along the whole lower border of the chest bit by bit, pulling outwards and upwards that whole plate of pliable semi-palmated cartilage which there terminates the five lower true ribs, and forms the outer inferior boundary of the thorax. Bit by bit, from the xiphoid to near the spine, she thus dug her four

powerful fingers under this cartilaginous lower border of the chest under the free ends of the false ribs, pulling them outwards with an energy that gave no little pain. This she called "opening the chest;" and it certainly seemed as if she had effectually increased the breathing capacity of the lungs.

Treatment of Acute Intestinal Obstruction.—Marmaduke Shield (*British Medical Journal*, 1889, Vol. i., p. 716).—He recommends copious enemata of oil and milk, with a little assafoetida if much flatus is present. If these fail to overcome the obstruction, the patient should be inverted and the abdominal walls galvanised; and if this prove ineffective, abdominal section should be resorted to. He deprecates postponing the operation, as late operations are useless.

A Compound Liquorice Powder.—Mr. J. H. Fisher (*Brit. Med. Journal*, April 6th, 1889), in a paper recently read before the Pharmaceutical Society, said that he had some years ago prepared, at the suggestion of a medical practitioner, a compound liquorice powder, which was in some respects an improvement on the pharmacopoeial powder; it had a pleasanter taste, tart rather than sweet; it was more easily miscible with water; it was less liable to gripe. It was, however, a somewhat more powerful aperient, and had some diuretic and "refrigerant" properties. The formula, which differs from the formula of the *B.P.* by the substitution of cream of tartar for some of the sugar, is as follows:—Senna, 2 parts; liquorice powder, 2 parts; fennel, 1 part; sublimed sulphur, 1 part; cream of tartar, 4 parts; sugar, 2 parts.

Phenol in Enteric Fever.—Frank M. Pope, M.B. (*The Lancet*, April 13th, 1889.) The author refers to a paper of Dr. Gramshaw (*The Lancet*, June 22nd, 1888), in which he recommended the following to be given every four hours in enteric fever:—Phenol, gr. j.; tincture of iodine, gr. $1\frac{1}{2}$. He has tried it in 22 cases, of whom 20 were under twenty years of age and 7 under ten years; thus a very large proportion were of the ages at which, as a rule, the disease runs a mild course. The result was that there was no reduction of mortality or liability to collapse, as compared with 120 cases not so treated.

Sulphur in the Treatment of Disease.—We are not ignorant in Birmingham of the value of sulphur as a remedy in a number of diseases, chiefly of the skin, of the bronchial mucous membrane, of the alimentary canal, of the joints. Sir Alfred B. Garrod has recently (*Lancet*, April 6th, 1889) informed the profession that he has for some time used lozenges containing five grains of milk of sulphur and one grain of cream of tartar, and which he calls "Compound Sulphur Lozenges," in sluggish liver, in bronchial affections, in chronic cystitis, in acne, psoriasis, prurigo, eczema (especially the gouty form), in pruritus ani, in cramps and irregular forms of gout, in rheumatoid arthritis, &c.

Chloroform as an Internal Remedy.—Dr. Stepp, of Nürnberg, noting the observations of Salkowski on the disinfecting power of chloroform water, determined to make trial of chloroform internally in a considerable number of diseases. In gastric ulcer Dr. Stepp gave chloroform (fifteen grains in a five-ounce bismuth mixture) with great effect, and believes this to be due to its disinfecting, astringent, and stimulating properties. In various affections of the mouth and throat, as follicular pharyngitis, catarrh of the pharynx, gingivitis, and diphtheria, washes and gargles containing chloroform proved very beneficial.—*Lancet*, March 9th, 1889.

Prof. Bianchi recommends chloroform water instead of alkaline solutions in washing out the stomach.—*Deutsche medizinische Wochenschrift*, Feb. 7th, 1889.

The Use of Indian Hemp in the Treatment of Chronic Chloral and Chronic Opium Poisoning.—E. A. Birch, M.D., M.R.C.P. (*The Lancet*, 1889, vol. i., p. 625).—In 1887, at Calcutta, I met with two cases, both of them distressing and interesting. The first was that of a European gentleman, who brought his wife with a view to placing her under a physician in consequence of her habits as a confirmed chloral drinker. She made no real effort to overcome her vice. When denied her regular dose on two occasions, she became so outrageous, and, in her husband's opinion, so alarmingly ill, that she remained but a few days in

town, and she ultimately died. The patient was a fresh, healthy-looking man, whose occupation was out-door and health-giving. He neither drank nor smoked. I could not ascertain with any certainty, how long he had been addicted to chloral, but I suspected he commenced it long before his wife's death, though that event was the excuse he offered in extenuation. His organs were healthy, and worked healthily, except the functionally deranged heart. I prescribed a sea trip, a mixture containing tinct. cannabis indica (ten minims), tinct. strophanth., and tinct. chlorof. co., with a bitter infusion, and appealed to him in the strongest language to abandon his vice. Six weeks later he returned, in much the same state, and reported that he had not given up his chloral. He now agreed voluntarily to place himself under circumstances which admitted of surveillance and restraint. His chloral was peremptorily stopped, and he was prescribed a pill containing half a grain of ext. cannabis ind. with a few grains of the compound colocynth pill, to be taken three times a day. The result was an *immediate* improvement. The craving for the chloral had almost vanished in twenty-four hours, natural sleep returned after a few days, and he began to enjoy his food. Eventually he returned to his home and work, a happy man ; but much disappointed because the name of the drug used was not communicated to him.

The second case was briefly this : I was requested to see a young Eurasian gentleman aged about twenty-four years, yellow, intensely anæmic, and extremely emaciated—an “exhumed corpse,” in fact, lying upon a couch, suffering acute agony in every limb. His liver and spleen were both materially enlarged. Occupying a position of considerable responsibility, and compelled to reside in one of the most desolate and depressing regions of Bengal, he became a very excessive spirit drinker, till he resolved to conquer the habit, and he did so, but with the assistance of opium. Laudanum was the form selected, and he admitted having consumed two ounces daily. His friends were quite hopeless of the possibility of recovery. Here there was the well-known train of symptoms—insomnia, anorexia, dis-

ordered bowels, conscious delusions, and so forth. Again I resorted to cannabis, commencing with a quarter of a grain of the extract, gradually increasing it to half a grain, one grain, and one grain and a half three times a day. Ability to take food and retain it returned, and appetite appeared; he began to sleep well; his pulse exhibited some volume; flesh rapidly accumulated; and after three weeks he was able to take a turn upon the verandah with the aid of a stick. After the lapse of six weeks he spoke of returning to his post, and I never saw him again.

MEDICINE.—DISEASES OF THE CHEST.

BY ARTHUR FOXWELL, M.B. CANTAB.

Aortic Aneurism.—In the *Amer. Journ. of Med. Sci.* for March, 1889, Dr. H. M. Biggs has a report on 32 cases of aortic aneurism and 2 of spontaneous rupture of the aorta without previous dilatation. Of the 32 cases, 24 were saccular, 3 fusiform, 2 dissecting, and 3 both saccular and fusiform. One of the 24 saccular had five distinct aneurisms, and one of the saccular and fusiform had four of the former and three of the latter. Rupture took place into the pericardium in 16 cases, and twice into the left pleura, the right pleura, and left pleura and lung respectively. One each into the œsophagus, left bronchus, left lung, left bronchus and lung, spinal canal, and retroperitoneal tissue. Three into the peritoneal cavity.

Out of 28 cases of thoracic aneurism a history suggestive of it was only present in 11; and in 7 of these 11 the site was at or beyond the junction of the ascending or transverse aorta. In 9 out of 12 situated wholly on the ascending arch there was no history suggestive of aneurism.

In almost every case in which the immediate circumstances were known death was very nearly instantaneous. It occurred in but a few instances during severe muscular exercise. Nevertheless the site was most frequently that of the greatest strain, that is on the outer surface of the ascending portion of the arch.

In several cases there were attacks of hæmoptysis previous to the fatal hæmorrhage: in these the rupture occurred first into the lung *and then* made its way into the pleural cavity, there being adhesions between the sac and the lung—in none was there any pulmonary tuberculosis.

Of the two cases of spontaneous rupture one was that of a domestic servant who was in the last stage of tubercular peritonitis, the rupture being due to the giving way of a calcified plate; and the other was an alcoholic ironworker, where a transverse intra-pericardial rupture was found in a healthy but somewhat thinned portion of the vessel.

With regard to the pathology of aortic aneurism the writer believes that "the preceding changes are in the majority of cases situated in the middle coat, and may or may not be accompanied by changes in the intima. These changes seem to be of a degenerative rather than of an inflammatory nature. There is granular disintegration and disappearance of the elastic fibres and fatty degeneration of the muscle cells. The middle coat often has almost disappeared in small saccular dilatations, when the intima is unaffected and only slightly thickened. In those cases where the process is a rapid one and when rupture occurs early, there is frequently little or no new growth of connective tissue and few or no infiltrated leucocytes in the degenerated media. When the process is slower or later in its course there is often a secondary new growth of connective tissue. But this, it seems to me, is not inflammatory in its nature and is not primary, but it is a fibrous hyperplasia, is secondary, and is to be regarded as a conservative process. After the degeneration of the muscular and elastic fibres, these are not reproduced, but in the attempt at repair their place is taken by new-formed fibrous connective tissue. This is a kind of fibrous hyperplasia—a scar tissue. That simple atheroma and endarteritis do not usually produce the changes preceding dilatation, is shewn by the absence or slightly marked character of these processes in many cases of rapidly forming aneurisms, and by the very extensive changes of this nature that are often present without dilata-

tion. In fact, in my own experience in those cases in which there was the greatest change in the intima, as a rule, no dilatation, or very slight dilatation, was present. In small saccular dilatations, one fourth or one half of one inch in width, of rapid formation, I have found in a number of instances at the point of dilatation absence, or almost complete absence, of the middle coat. This had disappeared first at the point of dilatation on each side of the sac. The intima, in some cases, shewed marked changes, and in others only very slight changes in structure. Occasionally the process in the media is inflammatory in character, and is properly designated mesarteritis; but these cases are the exception rather than the rule. In them the adventitia is also often involved, and a dense round cell infiltration is found round the vasa vasorum."

This view of aneurismal pathology is quoted at length because it appears to be new, so late an authority as Professor Hamilton, for instance, stating—"The starting-point of most of the aneurisms of the larger trunks is an atheromatous endoarteritis," making no remark at all as to any *primary* degeneration occurring in the media. The newness of view should have induced the author to accompany it with accurate microscopic drawings. Till such appear we shall be loth to alter our ideas on the bare statement of one observer, although we admit that the pathology of aneurism referring everything to the intima has always seemed most unsatisfactory, since, in our experience as in the author's, the very worst cases of endarteritis have been unaccompanied by local dilatation.

The Cardiac Ventricles.—Macdonald Brown, in the *Jour. Anat. Phys.*, vol. 23, p. 250, draws the following conclusions:—1. The right ventricle is liable at times to become surcharged with blood, and to this slight over-distension the character of its wall especially lends itself. To oppose this, two forces seem to be at work, viz., the "safety-valve" action of the tricuspid (Wilkinson King, *Guy's Hosp. Reports*, 1837, vol. ii., p. 122) and the various small bands, fibrous and muscular, which cross the cavity, in its lower half especially, and which

must to some extent help to antagonise over-dilatation. 2. In addition to these, he believes that the anterior papillary muscle largely counteracts over-distension of the right ventricle. When the cavity has become filled with blood and the valve-flaps floated into position of closure, then, the ventricle contracting, this papillary muscle not only fixes the cusps, pulling them towards the interior of the chamber, but reacts on the wall. This latter influence, owing to the trabecular radiation at the attachment of the muscle, affects a considerable area. 3. The moderator band was not once absent in 100 human hearts which he examined. Brown believes that it helps to strengthen the ventricular wall both by raising the base of the papillary muscle and by pulling it towards the septum. He thinks it probable also that it largely serves, by its contraction, to direct the blood stream towards the pulmonary orifice. 4. In many cases of but *slightly* dilated right heart the dilatation was found to exist only posteriorly to the anterior papillary muscle and the moderator band.

Collier, in his Erasmus Wilson Lectures on *The Mechanism of the Heart and its Valves*, quotes Rolleston as shewing that during diastole the pressure in both ventricles is less than that of the atmosphere, and then continues—"I think we may take it as an established fact that the ventricle is capable of and does actually expand *per se*, so as to suck blood with considerable force from the great veins and auricles. This fact being established, the necessity for a vigorous contraction of the auricle ceases, and the absence of valves at the root of the great veins and in the liver is explained." His explanation of the closure of the auriculo-ventricular valves is as follows :—"That contraction of the ventricles begins in the muscoli papillares; that the muscoli papillares begin to contract from the commencement of the diastole of the ventricle, and so bring the valves together. Thus it would appear that the valves are brought into apposition before the ventricle is quite full; that as soon as the ventricle has ceased to dilate, and the tension in the ventricle commences to rise, the valves become closely approximated and remain efficient."

Only the first part of the aorta is dilated by the ventricle's contraction. At the Brown Institution, in conjunction with Horsley, he found the aorta in dogs always dilated enough to account for the whole of the blood sent out by the ventricle. As fluid pressure is equal in all directions and as the area of a cross-section of the aorta is much less than that of its cylindrical circumference, it is evident that most of the ventricle's force will be spent on dilating the aorta and only a comparatively small amount on driving the blood onward. The tension in the aorta and therefore in the ventricle naturally increases with the duration of the systole till, at the last, tension is at its maximum and velocity at its minimum. In some experiments on dogs Collier failed to observe any contraction of the auricle as a whole, nor any wave of contraction spreading from the great veins towards the auricle. But the appendix contracted sensibly and vigorously immediately before the ventricular systole; it completely emptied itself and became pale and shrivelled. He believes that the presystolic murmur is certainly not caused by the contraction of the auricle: first, because either the contraction of the appendix or the aspiration of the ventricle is an all sufficient cause and, secondly, because in some cases of loud presystolic murmurs the auricle has been found so dilated and thinned as to be physically incapable of anything bordering on a vigorous contraction. [The author in this regard quotes a case of Sansom's where a very loud presystolic murmur, varying with a diastolic, existed during life: *post mortem* the auricle was greatly dilated with a half-inch lining of laminated fibrine.]

Collier does not agree that the second sound is caused by the closure of the semilunars; for this does not take place with a sudden smack, but gradually, as the tension on the aortic side gradually exceeds the ventricular; the valves thus gently coming to. The second sound is rather caused by the sharp vibration of the valves *after* their closure when the ventricle suddenly begins to dilate and so removes all pressure from their ventricular surfaces. A similar strain and consequent vibration of

the auriculo-ventricular valves, aided by the sound of the muscular contraction of the ventricles accounts for the first sound.—*The Illustrated Medical News*, April 27th and May 4th, 1889.

Empyema; Abscess in Wall of Left Ventricle; Multiple Embolisms.—This remarkable case is described by Godlee in the January number of the *Practitioner*.—A girl, aged 12, mother dead of phthisis and with a three years' personal history of "heart disease," was an out-patient in February, 1886, with swelling of the legs and a mitral systolic murmur. In April, 1886, she was made an in-patient with right pleuritic effusion. In June she was re-admitted with double pleurisy. In July, 1887, she was once more admitted with left empyema and friction over the base of the heart. On August 13th four pints of sweet pus were evacuated. At 10-15 p.m. on the 14th it was clear that emboli had escaped into the circulation, and on the 15th pulsation was absent in both popliteals, an aortic murmur (lasting only two or three days) developed, the urine, which had been free, contained one-seventh albumen, and became normal again in a few days, while in the left hypochondrium a severe continuous pain arose. The legs became gangrenous, and thirty days later the left was amputated. Forty days after the escape of the emboli the child died.

Post mortem.—The left lung was not much collapsed owing to adhesions, and the cavity of the empyema was therefore small. It contained many small pockets, and reached downwards to the diaphragm and as far forwards as the heart's apex. The pericardial cavity was completely obliterated by old adhesions. The valves on the right side of the heart were healthy, as also were those of the left side, except for a little puckering and a fine fibrous cord which passed from one aortic cusp to another. The apex of the left ventricle was occupied by an old decolourised clot the size of a large nut, the deep part of which was broken down, and corresponded to an abscess occupying almost the entire thickness of the ventricular wall at the extreme apex. The upper third of the spleen was a grey stinking slough, and communicated with the fundus of the stomach by a

small rounded aperture. There was an infarct in the outer border of the left kidney. Godlee thus explains the condition. The removal of the pus from the pleura caused rupture of the abscess in the heart's apex. Hence the emboli. The infarct in the kidney produced the temporary albuminuria; that in the spleen caused its disorganisation; and the temporary murmur was owing to the catching of an embolus on the fibrous cord of the aortic valve.

Why was the splenic infarct infective whilst the others were aseptic? Was the disorganisation not rather due to extension from the empyema? The abscess in the ventricle also probably arose from extension from the empyema. Another question equally pressing is this: Why were not *all* the emboli infective? Their source of origin would certainly have led one to conclude that they were. Yet the *post mortem* showed that none except that in the spleen could have been of such a nature.

SURGERY OF THE URINARY ORGANS.

BY GILBERT BARLING, B.S., F.R.C.S.

The Operative Treatment of the Hypertrophied Prostate.—Watson (*Annals of Surgery*, January, 1889).—This question is discussed at some length here, both from an anatomical and from a clinical point of view. There are three anatomical factors mentioned as determining the choice of operation:—(1) The perineal distance, that is the distance from the junction of the prostatic and membranous urethra, to the most distant point of the median enlargement within the bladder; (2) the form of the median enlargement, and (3) the capacity of the bladder for retaining sufficient fluid to allow of the modern supra-pubic operation. Examination of 30 specimens obtained by autopsy shewed that 14 were examples of bi-lateral and median enlargement; 9 of median enlargement only; 4 of bi-lateral enlargement only; 2 of median and uni-lateral enlargement; 1 of separate

pedunculated tumours. In almost every instance the median growth constituted the chief obstacle to urination, and in 10 it proved the only obstacle. Further, in 21 of the 30 specimens the median enlargement was within reach from the perinæum, and in 10 the capacity of the bladder for distension was so small as to make the modern supra-pubic operation impossible.

To illustrate the clinical side statistics are given of the mortality following palliative operations and that after radical measures, greatly to the disadvantage of the former, the respective rates being 48 per cent. and 17 per cent., but we very much doubt whether any sound conclusion can be drawn from these numbers as to the comparative merits of palliative and radical treatment. The most interesting figures are those relating to prostatectomy—in 12 operations by the perinæum 11 were followed by recovery; of 11 operations by the supra-pubic route 8 were followed by recovery. The paper ends with two cases operated on by the author.

Case 1, aged 80 years, had suffered for three years from prostatic obstruction, and quite recently from cystitis and a false passage. The bladder was opened supra-pubically and an enlargement of the median prostatic lobe found, crescentic in form. This was removed in three pieces with cutting forceps, in all about the size of an unshelled almond. No hæmorrhage took place. The bladder was drained and the patient did well for three days, at the end of which time the temperature rose to 106° F., and death followed in twelve hours. A partial autopsy only was allowed, but nothing was found in the urinary tract to account for death; it is, however, worth noting that the urine was of low specific gravity.

Case 2, aged 74 years, obstruction for six years; catheter necessary during the last three years; severe cystitis three months. As the bladder would only hold two ounces of fluid perinæal prostatotomy was performed. The "perinæal distance" was so great ($3\frac{1}{2}$ inches) that it was with great difficulty that a median lobe enlargement, of the form of a bar between the lateral lobes, could be detected. This was centrally divided by

a probe-pointed bistoury. A tube was used to drain the bladder for three weeks, since which time it has been taken out in the day time and the bladder emptied by a catheter through the perinæal opening, whilst at night the tube is re-introduced, the power of voluntary micturition not being restored.

The International Journal of Surgery for April, 1889, contains an account of another prostatectomy by the same surgeon. The patient, aged 69 years, had suffered from prostatic obstruction during ten years; for five years the constant use of the catheter was necessary, and latterly sharp hæmorrhage had been present. The high operation was performed, when the prostate presented two lateral projections, each the size of a very large Spanish chestnut and connected by a less prominent median ridge with a false passage in it; around this was a surface the size of the end of one's thumb, covered with granulations, from which the hæmorrhage was probably derived. The lateral portions were divided into halves and removed by a wire ecraseur, the median portion being removed by scissors and curette. Hæmorrhage was slight and the wound was healed by the eighteenth day. Voluntary power of urination was not restored but the bleeding did not recur.

Mr. Arbuthnot Lane records a case of prostatectomy in the *Lancet*, April 27, 1889. The patient, aged 72, the subject of chronic bronchitis and emphysema, suffered suddenly from almost complete prostatic obstruction with severe hæmaturia. Repeated and easy passage of the catheter gave no relief, and when admitted to hospital the patient was very anæmic and feeble and his pulse was intermittent. Per rectum a general enlargement of the prostate was felt and a special projection of the middle lobe, the upper margin of which the finger could not reach. The bladder was opened above the pubes and a sessile globular mass, the size of a Tangerine orange, was found projecting upwards immediately behind the neck of the organ. An attempt to enucleate this failed, so it was removed by the wire ecraseur with but little bleeding. The wound was left open and was irrigated twice a day with 1 in 500 of perchloride of mercury.

Good progress was made for eight days, when he failed to get up his expectoration, his temperature rose, and he died on the eleventh day. The autopsy shewed much sticky pus in the bronchial tubes, comparatively little change in the kidneys, the absence of peritonitis and of urine extravasation.

Sarcoma Bladder ; Excision ; 18 months without relapse.—Whitehead (*Lancet*, February 23rd, 1889).—The patient, a male aged 46, had suffered at long and irregular intervals from hæmaturia, and for three months from dribbling of urine with inability to micturate more than a few drops. The urine was alkaline, S.G. 1010, and contained a quantity of blood. The sound encountered some obstruction at the neck of the bladder, but on overcoming this nothing definite could be felt nor could a tumour be detected per rectum. A perinæal opening revealed a soft diffused growth involving the base and the posterior and lateral walls and to complete its removal, which was done with forceps and fingers, the bladder was opened above the pubes without either rectal or bladder distension ; hæmorrhage was moderate. A good recovery followed, and the growth proved to be a lympho-sarcoma. Eighteen months subsequent to the operation the patient states that his urine is clear, that he can hold it for three or four hours, passing it easily, and that his general health is good.

Pedunculated Sarcoma Bladder ; Excision ; Death.—Golding-Bird (*Brit. Med. J.*, January 5th, 1889).—The patient, a woman aged 55, had suffered from hæmaturia, pain, and frequent micturition, and stoppage of water occasionally for eighteen months, and she had also passed gravel at times. On sounding, no stone could be detected so a digital examination per urethram was at once made and a pedunculated tumour detected on the posterior wall somewhat to the left ; it was compact, of the size of a hen's egg and the pedicle was as thick as the thumb. The tumour was subsequently removed suprapubically, with great ease, by means of the electric cautery ecraseur and the wound left open. Though the wound looked well and the temperature gave no anxiety, troublesome vomiting

followed the operation and the patient died, after rapid collapse, on the fifth day. *Post mortem* it was found that the cellular tissue in front of the bladder was infiltrated with pus and there was a little peritonitis in the vesico-uterine pouch. Examination of the bladder shewed that the growth had been completely removed but that its pedicle was larger than had been supposed. The tumour proved to be a small round-cell sarcoma.

Electrolysis for Stricture of the Urethra.—(*Journal de Médecine de Paris*, April 28th, 1889, Dr. J. A. Fort).—An interesting case is reported in which the patient had twice previously been subjected to gradual dilatation and once to rapid dilatation. When electrolysis was commenced the main stricture, situated eighteen centimetres from the meatus, admitted a No 7 French bougie. A current of sixteen milliamperes was used for about two minutes and then a No. 20 bougie was passed; at the end of a fortnight the same instrument was again passed with great ease. The patient suffered scarcely any pain; there was no bleeding, and orchitis and cystitis, which followed the previous methods of treatment, were avoided.

Tuberculosis of the Penis; Amputation.—An abstract of this case is given in the *Illust. Med. News* for Jan. 5th, 1889. The patient, aged 49 years, presented an ulceration on the glans penis the size of a five-shilling piece, having the ordinary character of a tubercular ulcer. This had been previously diagnosed as a soft chancre, but the subsequent progress of the sore and the discovery of the tubercle bacillus cleared up the diagnosis. On amputating the organ, it was discovered that the corpora cavernosa were completely infiltrated, so the whole penis was removed, and the patient left the hospital perfectly cured.

Removal of both Testes at different times for Carcinoma of the Epididymis.—F. W. Rockwell (*Annals of Surgery*, Dec. 1888). The patient, aged 35 years, presented himself with a hard tumour, the size of a large grape, in the head of the left epididymis, the skin being firmly adherent to it. Another small nodule existed in the tail of the epididymis, but the body of the

testis was free from disease, as were the lymphatic glands. The whole organ was removed, and the tumour proved on examination to be a scirrhus carcinoma. About three months after the operation the patient presented himself with a smaller tumour occupying the left epididymis, and having the same physical characters. The stump of the right cord and the lymphatic glands on both sides were free from disease, so the left testicle was removed and the growth found to be similar to that on the opposite side, and in structure identical with a specimen presented to the Pathological Society in London by Bryant. The patient was perfectly well fourteen months after the second operation.

DISEASES OF THE NERVOUS SYSTEM.

BY C. W. SUCKLING, M.D. (LOND.) M.R.C.P.
PHYSICIAN TO THE QUEEN'S HOSPITAL.

Muscular Atrophy in Locomotor Ataxia.—M. J. Dejerine, in the *Revue de Médecine* for February, March, and April of this year, contributes an important article upon muscular atrophy occurring in tabetic patients. His researches are based upon nineteen cases of atrophy in tabetic patients, in nine of which an autopsy with microscopical examination had been performed. He concludes that the muscular atrophy which frequently supervenes in the course of tabes is not an independent affection but that it is an integral part of the symptomatology of locomotor ataxy. The atrophy supervenes usually at an advanced stage of tabes and is mostly symmetrical but of slow development. It commences almost always in the muscles of the extremities (hands and feet), and a little oftener in the lower than in the upper extremities. The predominance of the atrophy in the muscles of the extremities, whatever the degree of generalisation attained, is the rule, the contrary very rare. In the lower extremities the atrophy is shown by the production of the equine foot with plantar flexion of the toes, especially of the big toe.

In the upper extremities it is usually of the Aran Duchenne type (clawed hand, etc.); very rarely it belongs to the scapulo-humeral or anti-brachial types. The muscular atrophy of tabetics is not accompanied by fibrillary contractions. Idio-muscular contractility is diminished or abolished. Faradic and galvanic contractility is modified quantitatively only, the reaction of degeneration being rare. The muscular atrophy is due to an alteration in the motor nerves, diminishing in intensity from the periphery to the centre, extending however in some cases as far as the anterior roots. The alteration in the motor nerves is purely peripheral, the motor cells of the anterior cornua being unaffected. M. J. Dejerine considers that it is conclusively proved that muscular atrophy due to peripheral neuritis frequently occurs in tabetics.

Relapsing Multiple Peripheral Neuritis—Impaccianti (vide *London Medical Record*, Feb. 20th, 1889) has recorded the case of a boy, aged 18, who complained of weakness in the legs and arms with wasting of the muscles of the thenar and hypothenar eminences. The knee jerk was absent on both sides. There was no tenderness along the course of the principal nerve trunks. The pupils were unaffected, as were also the bladder and rectum. Common sensation was only slightly diminished on the anterior surface of the forearms, the palms, the anterior and inner surfaces of the thighs and on portions of the back. Later on, the symptoms deepened in intensity, and the reaction of degeneration became marked. He was treated with iodide of potassium, vapour baths and complete rest, and in three months he was walking about again. A few months later, after a fresh exposure to cold and wet, he had a relapse and became much worse than ever. The muscular wasting was extreme, the fingers were flexed, the feet were in a condition of talipes equinus-varus, and the intercostal muscles were greatly affected, breathing becoming laboured. The patient however again rallied. The author points out the resemblance of these cases of peripheral neuritis (where sensory disturbances are slight or absent) to anterior poliomyelitis. Exposure to cold is now a well-recognised cause of multiple peripheral neuritis.

"Procurive" Epilepsy.—Mairet contributes an article upon this variety of epilepsy in the *Revue de Médecine*, Feb., 1889. The term signifies an attack in which the body is propelled in some special direction. The attack is not accompanied by actual loss of consciousness or followed by coma. Its duration does not exceed that of an ordinary epileptic fit. According to some authors there is marked congestion of the face during the attack. These cases are known to be epileptic in nature by their associations as well as by the character of the attacks, the element of suddenness being very marked. In the same patient the attacks may be replaced by epileptic fits, or they may replace a true epilepsy with loss of consciousness. The actual movement varies in different cases. In some a rapid revolving of the body around its horizontal axis, in others a rotation in a large circle, etc., occurs. The highest expression of consciousness (perfect control over volitional efforts) is evidently lost, since the patient cannot prevent himself from performing these strange movements.

Strophanthus in Graves' Disease.—Dr. D. R. Brower, of St. Louis, recommends strophanthus in the treatment of Graves' disease, and he has administered it in three cases with benefit. In one case a man, aged 21, was cured in four weeks. Tincture of strophanthus was commenced in two-drop doses every six hours and gradually increased until ten drops were given. The pulse, which had been very rapid, fell to 85, and the exophthalmus and goitre also gradually disappeared. Dr. Brower does not advise reliance solely upon strophanthus. Ordinary hygienic rules must be observed, such as the avoidance of fatigue, physical and mental excesses, a carefully regulated diet and attention to the bowels and skin. He prescribes also ordinary tonics and the application of galvanism to the cervical sympathetic nerves.

The Localisation of Tabes Dorsalis.—Jendrassik has recently reported two cases which support his belief in the cerebral origin of this disease, and concludes that his cases prove the existence of peculiar alterations in certain portions of the cerebral cortex, alike in histological character but different in seat from

those found in dementia paralytica. He considers that the greater part of tabetic symptoms are due to cortical disease, and that the sclerosis of the posterior columns is to be considered as a degeneration secondary to the cerebral changes.

Paralysis "à Frigore."—The *Lancet*, Mar. 2, 1889, notes a paper read by M. Neumann on the part played by nervous predisposition in the etiology of facial paralysis *à frigore*. Neumann (in 1887) was the first to suggest that cases of facial paralysis attributed to exposure were not explained by this simple statement, but that there must be a nervous predisposition in the subject; cold acting as an adjutant, like traumatism, in the induct of hysterical contracture or in producing an attack of gout in the gouty subject. Hence he would banish paralysis *à frigore* from the catalogue of so-called ill effects. He made full enquiries into the antecedents of the subjects of facial paralysis and found that many were liable to chorea, migraine, convulsions, etc., and also that their relatives were frequently affected with neuroses.

Tabes Dorsalis and Exophthalmic Goitre.—Evidence exists, both clinical and experimental, that lesions about the restiform bodies may produce the tread of symptoms characteristic of Basedow's disease. In cases of the association of the two diseases, have the scleroses and degeneration on which the tabes depends exceeded their usual boundaries? (*Lancet*.)

A Case of Echolalia (Word Repetition).—Dr. Raymond relates the case of a woman of 74 who had an apoplectic stroke and was brought into the Lyons Hospital with right hemiplegia. She could not speak at all for a week or so after she recovered consciousness, but nearly complete capacity had returned at the end of a month, and then her peculiar symptom began to be noticed. She could not help repeating what was said to her or by persons speaking near her. In ordinary conversation she stammered and repeated her words, but could make herself understood, though with difficulty. When she repeated what other people had said, she spoke clearly; and on all occasions, whether speaking clearly or not, seemed perfectly satisfied with

herself. She remained in this state about nine months, and died finally of pneumonia. A *post mortem* examination shewed a patch of yellow softening the size of an almond at the base of the third left-frontal convolution, and another at the anterior edge of the third left temporal at the border of the fissure of Sylvius. There were small vegetations on the mitral valves, and the hypothesis of embolism was considered the most probable.—*Lyons Méd.*, March 18th, 1888, p. 450. Reported in the *Practitioner*, June, 1888.

Unilateral Muscular Hypertrophy following Typhoid Fever.—M. Adolphe Lesage (*Revue de Méd.*, 1888, p. 903) describes an interesting case in which muscular hypertrophy of one leg followed typhoid fever. Of late years it has been pointed out that occasionally acute muscular inflammation accompanies infectious fevers. When this has begun in the muscular fibres it usually ends in complete recovery, but when there is inflammation of the coats of the smaller arteries, a secondary muscular hypertrophy and fibrosis occurs, more frequently in the heart than elsewhere, and in such a case typhoid fever may start a chronic cardiac hypertrophy with fibrous infiltration. In Lesage's case, on the nineteenth day of the fever phlegmasia occurred in the left side, followed by considerable enlargement of the leg and thigh. The patient recovered from the fever, and the swelling of the left leg diminished but did not completely pass off. During the two years following this attack the left leg increased in size, the left calf being nearly two inches larger than the right, and the left thigh an inch and a half larger than its fellow. Sensation, the reflexes and the electrical reactions were unaffected. There were no signs of a peripheral neuritis. The diagnosis was that, together with the phlegmasia, an arteritis had been present, which lessened the calibre of the vessels and led to an anomaly of nutrition and an excess of fat infiltrating the muscles without notable degeneration of their fibres.

Epilepsy from Dental Irritation.—Dr. Brubaker, of Philadelphia, has collected sixteen cases in which epilepsy has depended

upon the presence of carious teeth or abnormal states of the gums preventing the cutting of teeth. In all the cases the removal of the source of irritation was so immediately followed by a cessation from fits as to lead to the conclusion that this form of irritation is more productive of epilepsy than has hitherto been believed.

Iodoform in Tubercular Meningitis.—Dr. Daniel Brower (in the *Journal of the American Medical Association*, vol. x., p. 1) strongly recommends the treatment of tubercular meningitis by inunctions of iodoform and lanoline or vaseline—about one part of iodoform to five of the vehicle. An application of iodoform ointment is to be made at least twice daily to the scalp, the head being shaved for the purpose. The treatment should be commenced as early as possible.

Motor Ataxia in the Arms (The Practitioner).—Dr. Weir Mitchell has read before the Philadelphia Neurological Society the history of a case of motor ataxy confined to the arms. The patient, a doctor of medicine aged 55, observed in July, 1887, that his hand became unsteady in writing without true tremor, and that there was increasing numbness in the finger ends of both hands. There were no eye or bladder symptoms. In a short time the numbness appeared in the toes, and the optic discs commenced to shew grey degeneration. There was no static ataxia, and the knee jerk was not only not abolished but excessive. The upper limbs became very awkward in their movements, there being great want of co-ordination in every effort to make delicate adjustments, as when he attempted to touch his nose or ear with his eyes shut. He failed also to estimate weights by his upper extremities. The elbow jerk was lost on both sides and non-reinforcible by motion or sensation. Sexual power was lost, but there were no visceral crises.

True Agraphia.—(*The Practitioner*, June, 1888).—Prof. Charcot records the case of a woman aged 64 who had had, at the age of 44 in 1868, right hemiplegia with paralysis of the tongue and inability to write. Her speech and movements soon became normal; she could read easily and do anything she

liked with her hands except write. She had no motor idea, so to speak, of letters. The remarkable fact throughout has been that during these last twenty years she has never recovered her capacity for writing. She is well educated, can read, and understands what she hears, and, until a second attack of hemiplegia in 1885, could speak. She can copy printed or written letters; but when she is set to write down what she has just been reading or hearing or saying, she cannot do it. She has the visual image of a word, the auditory image, the motor image for speech, but she has lost the mechanism by which a word is put into writing—the motor image for writing. This is true agraphy.

Chinese "Nervelessness."—That China is, at least in some respects, the moral antipodes of America is shewn by a writer in the *North China Herald* of Shanghai. A Chinaman will write all day like an automaton; he will stand in one place for many hours and does not perceive the monotony. Chinese school-children will undergo an amount of confinement, unrelieved by recesses or changes of work, which would drive Western pupils to the verge of insanity.—*Boston Medical and Surgical Journal*.

REPORTS OF SOCIETIES.

BIRMINGHAM AND MIDLAND COUNTIES BRANCH. BRITISH MEDICAL ASSOCIATION.

ANNUAL GENERAL MEETING.

The Annual General Meeting of the Branch was held in the Medical Institute on Thursday, June 20th, 1889.

Present, Dr. Thursfield, Mr. Lloyd-Owen, Mr. Lawson Tait, Mr. Pemberton, Dr. Wyer, Dr. Douglas, Mr. Barling, Mr. Bennett May, Mr. Manley, Dr. Simon, Mr. Priestley Smith,

Dr. Rickards, Mr. Marsh, Mr. Harmar, Mr. Thomas, Dr. Savage, Mr. A. Freer, Dr. Strange, Mr. Garner, Mr. J. E. Thomson, Mr. J. W. Taylor, Dr. Rankin, Mr. R. Smith, Mr. Haslam, Dr. W. S. Nason, Mr. Wood White, Dr. Suckling, Mr. Vincent Jackson, Dr. Herbert Manley, Mr. Oakes, Dr. Saundby, and several visitors.

W. S. Manning, F.R.C.S.I., City Fever Hospital, and John Holmes, M.D., Southam, Warwickshire, were elected members.

It was moved by the President, seconded by Dr. Saundby, and resolved—

“That this Meeting desires to express its regret at the death of Dr. Edward Dewes, a former President of this Branch, and to convey to Mrs. Dewes its sense of the loss she has sustained and its sympathy with her in her bereavement.”

The Reports of the Council, Treasurer, and Pathological Section were received and adopted.

Some discussion took place on the payment of representatives in the Council of the Association, and on the motion of Dr. Thursfield, seconded by Mr. Marsh, the following resolution was unanimously agreed to :—

“That the Representatives of this Branch in the Council of the Association be instructed to take action in the matter of the payment of the travelling expenses of the Branch Representatives incurred in attending the meetings of the Council, and endeavour to obtain a recommendation from the Council to the Annual Meeting that such expenses should be paid by the parent Association.”

The usual formal votes of thanks to the various Officers of the Association having been passed, the President delivered his Inaugural Address (*vide* page 1).

The following were the Office-bearers elected :—President-Elect, Alfred Freer, Esq. (Stourbridge); Treasurer, Edwin Rickards, M.B.; Honorary Secretaries, Robert Saundby, M.D., and Jordan Lloyd, Esq.; Representatives of Branch in Council of Association, Hugh R. Ker, Esq., and Robert Saundby, M.D.; Representative on Parliamentary Bills Committee, T. W. Thursfield, M.D. Council—Country Members: Vincent Jackson,

Esq. (Wolverhampton); J. Holmes Joy, M.D. (Tamworth); H. R. Ker, Esq. (Halesowen); Edgar Underhill, M.D. (Bromsgrove); John Manley, Esq. (West Bromwich); S. H. Agar, Esq. (Henley-in-Arden); W. Douglas, M.D. (Leamington); J. Fenn Clark, Esq. (Leamington). Town Members: T. H. Bartleet, Esq.; Bennett May, Esq.; C. W. Suckling, M.D.; Priestley Smith, Esq.; F. Marsh, Esq.; Gilbert Barling, Esq.; Lawson Tait, Esq.; A. H. Carter, M.D.

ANNUAL DINNER.

The Annual Dinner was held at the Grand Hotel at six o'clock, the President, Mr. D. C. Lloyd-Owen, being supported by Prof. Gairdner, President of the Association; the Mayor of Birmingham; Dr. Bridgwater, President of the Council of the Association; Sir Walter Foster, M.P.; Mr. Ernest Hart, Mr. Fowke, Canon Bowlby, Surgeon-Major Emerson, Mr. Bartleet, Mr. Vincent Jackson, Mr. Garman, Dr. Rickards, Mr. Manley, Dr. Thursfield, Dr. Bridges, of the Local Government Board; Mr. Boldero, President of the Staffordshire Branch; and many other gentlemen.

Letters of apology were received from, among others, Dr. Holman, Treasurer of the Association; Judge Chalmers, the Town Clerk of Birmingham, Mr. Coroner Hawkes, Mr. Lawson Tait, and Dr. Carter.

After dinner the toast of "The Queen" was proposed by the President. Mr. Bartleet proposed the toast of "The British Medical Association." He said that he had been from his early days intimately associated with those who had founded this Association, which had taken its origin in Birmingham, and for many years had its head-quarters here. At his father's house he used to meet Falconer of Bath, Chadwick of Leeds, Husband of York, Dr. A. P. Stewart, and many others of the founders and fast friends of the Association. It was therefore a great pleasure to him to propose this toast, and to see here at the dinner the President of the Association, the

President of the Council, the Editor of the *Journal*, and the General Secretary—a gathering of administrative officers on a similar occasion which he was certain had never previously taken place in Birmingham, and he believed had never occurred at any other Branch dinner.—The toast was responded to by Professor Gairdner, who commenced by saying that his position reminded him of a saying of an old patient of his, who complained that his grandfather had drunk all the port, while *he* had the gout. He said that he was put forward to occupy the post of honour, while the whole burden and work of the Association fell upon other shoulders. From his position he had been able to observe the extraordinary devotion shewn by the administrative officers to the interests of the Association, and he felt that he was unfairly occupying the most prominent position in responding to this toast when those were present to whom the Association owed so much more. He recognised in the British Medical Association a great and powerful organisation occupying a unique position, as it was the only corporation which united the whole profession, not only here but all over the world.

Mr. Vincent Jackson proposed the toast of "The Mayor and Corporation of Birmingham," which was responded to by the Mayor, who spoke of the immense amount of gratuitous public work performed by the Medical Profession, and his amazement at the devotion displayed by the officers of the various medical charities in Birmingham to their humane and charitable duties.

The toast of "The Birmingham and Midland Counties Branch" was proposed by Dr. Bridgwater, the President of the Council of the Association, who referred to this Branch as the Mother Branch of the Association, and one to which he always looked for advice, encouragement, and sympathy. During those recent events which had to some extent troubled the Association in London, they had always been aided and supported by the assistance of their Birmingham colleagues. Birmingham had been very noteworthy by the men she had sent up to the Council, and no town perhaps had had more

influence in the government of this great Association. He felt sure that the Birmingham and Midland Counties Branch had in no way degenerated from the past, and that its influence in the Council was as great now as it had ever been.—The toast was responded to by Mr. Alfred Freer, the President-elect, who thanked the members for the honour done him in electing him to be their future President.

The toast of "The Birmingham School of Medicine" was proposed by Professor Gairdner, who referred to his life-long friendships with the late Drs. Fleming and Heslop—two distinguished teachers of this school—and to the advantages derived from the connection of the School with Mason College.—The toast was responded to by Sir Walter Foster, who spoke of the improvement that during his recollection had taken place in the School, but regretted that while this improvement had taken place in teachers and students, it seemed to him that there was an increase in the lower kinds of medical practice in the district—that cheap dispensaries were increasing; and he begged his professional brethren to do all in their power to persuade men to give up lines of practice injurious to themselves and injurious to the body to which they belonged, and to root out the practice of covering unqualified practitioners.—Professor Heath briefly replied on behalf of Mason's College.

The toast of "The Visitors" was proposed by the President and responded to by Dr. Bridges, who referred to the magnificent workhouse infirmary lately opened in Birmingham as an example of the manner in which Birmingham took the lead in municipal and sanitary matters.—Mr. Ernest Hart, in reply, said that the *Journal* had been phenomenally successful beyond anything in medical journalism, its triumphs having been the triumphs of the Poor Law surgeon, the certifying factory surgeon, the prison surgeon, the army medical officer, and the medical officer of health. It was for them that he had worked; and, in doing this, he had sometimes to write things which were not palatable to those who had the control of the great corporations. He did not pretend never to have made mistakes. A

great American Minister had said, that the man who never made a mistake was one who had never done anything.

Dr. Saundby, in a few words, proposed the toast of "The President," to which Mr. Lloyd-Owen replied.

In the course of the evening a selection of music was given by Mr. Barling, Dr. Crooke, Mr. Crump, and Mr. Bennett, which added greatly to the pleasure of a most successful dinner.

REVIEWS.

(1) ELEMENTS OF HISTOLOGY.*

(2) A COURSE OF ELEMENTARY PRACTICAL HISTOLOGY.†

WE welcome a new edition of Dr. Klein's useful manual of normal histology, in which numerous additions will be found both in the text and in the illustrations.

The former is fully up to date, and contains references to the recent investigations on the structure of striated muscular fibre, by Melland and Marshall in this country and by Rollet in Germany, whose views harmonise with the well-known classical descriptions of Bowman, Brücke, Cohnheim and Englemann, with which the author agrees.

The section on the structure of nerves, spinal cord and brain is worked thoroughly up to date, and includes the latest information concerning peripheral nerve terminations in epithelium, epidermis and muscle.

Heidenhain's investigations into the structure of salivary glands, and his more recent researches on the absorption of chyle by the mucous membrane of the small intestine, also receive notice.

* *Elements of Histology.* By E. Klein, M.D., F.R.S. New and enlarged edition. London: Cassell and Co. 1889.

† *A Course of Elementary Practical Histology.* By William Fearnley. London: Macmillan and Co. 1888.

Regarding the illustrations, in addition to several new woodcuts, reproductions of excellent photomicrographs, by Mr. Andrew Pringle, have been introduced. They are some of the best specimens of this kind of work we have hitherto seen. Nevertheless, we think it will be some time before they supersede carefully executed drawings for teaching purposes.

Altogether, the book is well got up, and though somewhat enlarged, remains a capital handbook for students.

MR. FEARNLEY'S work is indeed a practical demonstration of the maxim, "Where there's a will there's a way." The "will" betokens a wonderful degree of energy; while the "way" in which it has been carried out is highly creditable to the author, who has found, *midst the engrossing cares of a general practice, leisure time* to compile a useful manual, which will be found an excellent practical companion to Dr. Klein's systematic compendium.

The book opens with a very good description of the microscope and how to use it. Amongst the instruments and lenses of foreign manufacture recommended to the student we miss the time-honoured name of Hartnack, with whose objectives it was at one time the fashion for most histologists to work. Microscopes and lenses of genuine Hartnack (Potsdam) manufacture are still to be had; and, so far as our experience goes, they are quite equal if not superior to some of those of foreign make specified in Mr. Fearnley's book. But we agree with him in being able to congratulate our own opticians on their efforts to compete with the foreigner in producing microscopes adapted for the needs of students.

The section devoted to the description of the apparatus and reagents requisite for histological work, and to the various methods employed in the technique of injecting, hardening, section cutting, staining and mounting, is very elaborate and complete, and quite up to date.

Regarding the composition of the gum and syrup solution used as a preservative and freezing fluid for blocks of hardened tissue intended for the freezing microtome, we think the author,

after a fair trial, will find it advantageous to have the fluid made up in some definite proportions according to the texture of the tissue which it has to penetrate.

The statement, too, that all sections stained in hæmatoxylin or logwood ought to be mounted in Canada balsam and not in Farrant to be permanent, is one to which we must take exception. We would rather modify it by saying that if the sections be previously soaked for a short time in a dilute solution of osmic acid ($\frac{1}{8}$ to $\frac{1}{16}$ %) they may be doubly stained in hæmatoxylin and picrocarmine and mounted in Farrant for years without detriment.

Part II. is a scheme for practical daily exercises constructed much on the same plan as that devised by Prof. Stirling in his "practical histology." The book is intended for those working either in a private laboratory of their own, or under the guidance of a teacher; and certainly in its description of the reagents and necessary apparatus and where to get them, it bears a very favourable comparison with the older manuals of Rutherford, Schäfer and Stirling. Mr. Fearnley duly acknowledges all sources to which he has been indebted for information in the compilation of his book. We can certainly recommend it as a safe and reliable guide; and its pages bear evidence that its author has practically tested the methods he describes.

THE BACTERIA IN ASIATIC CHOLERA.*

THIS is only a reprint of Dr. Klein's papers in the *Practitioner* published more than two years ago. All the world knows that Dr. Klein was sent to India to report on the supposed discovery of the cholera bacillus by Koch, and most of those who are interested in cholera felt very disappointed with the way he performed that duty. Since the admirable work of Macleod and Milles has been published in which Koch's observations are fully confirmed and pure cultivations of the comma bacillus have been shown capable of producing in pigs an intestinal

* The Bacteria in Asiatic Cholera. By E. Klein, M.D., F.R.S. London: Macmillan and Co. 1889.

affection completely resembling cholera Dr. Klein's criticisms are a little out of date, and this book has only a questionable historical value.

REPORTS FROM THE LABORATORY OF THE ROYAL COLLEGE OF PHYSICIANS, EDINBURGH.*

IT is not perhaps generally known that two or three years ago the Royal College of Physicians of Edinburgh, at the instance of Dr. J. Batty Tuke, decided to equip a laboratory and appoint a superintendent. They chose a suitable house in Lauriston Place near the Infirmary, and appointed Dr. G. Sims Woodhead, one of the pathologists to the Royal Infirmary and assistant to the professor of pathology, to the post of superintendent. In addition to being a place where original research is encouraged, it affords scientific assistance to practitioners, by enabling them to get an opinion upon the histological or chemical nature of a tumour or secretion submitted by them to the superintendent; and this is done, we understand, without any fee. The present volume records a portion of the work done during the first year of the existence of the laboratory. No less than 167 specimens have been examined for individual members of the profession. But, in addition, some very important original work has been done, as is attested by these papers, among which we would mention that of Dr. Macleod and Mr. Milles on cholera, that of Dr. Bruce on absence of the corpus callosum, and Dr. Woodhead's paper on tabes mesenterica and pulmonary tuberculosis.

The Edinburgh College may well be satisfied with the result of its liberal venture. We have every confidence that the laboratory will become one of the most beneficial additions to the Edinburgh school of medicine.

* Reports from the Laboratory of the Royal College of Physicians, Edinburgh. Edited by J. Batty Tuke, M.D., and G. Sims Woodhead, M.D. Vol. i. Edinburgh and London: Young J. Pentland. 1889.

LEPROSY AN IMPERIAL DANGER.*

THIS is a very good little book written with a very proper motive on a very important subject by a gentleman who, although not a member of the medical profession, possesses both the knowledge and the enthusiasm required for his task.

His purpose is to draw attention to the undoubted fact that leprosy is increasing, that it is invading, year by year, new territories, and that it is threatening to spread all over the globe in an epidemic wave. He adduces much evidence to prove that this dire disease is transmissible by contact and by careless vaccination, and that there are no climatic limits to its dominion. His practical suggestion is the formation of a British Leprosy Association with affiliated branches in all colonies and dependencies to collect information and to assist the Government in determining what sort of measures should be taken to oppose the spread of the disease.

The book is worth reading by all who practise in leprosy countries as well as by those who are interested in public health. The author is certainly right in his warning that, although we enjoy in England immunity from this foul malady, if it gets introduced it will spread among the populations of our city slums just as it does elsewhere.

STUDIES IN CLINICAL MEDICINE.†

THIS is a new departure in British medical publications. The idea was suggested by Charcot's Policlinic Reports (not polyclinic as Dr. Bramwell writes it), and Dr. Bramwell's intention is to publish a full stenographic report of his examination of out-patients and his remarks, illustrating them when necessary by

**Leprosy an Imperial Danger.* By H. P. Wright, M.A. London : J. and A. Churchill.

† *Studies in Clinical Medicine.* Vol. 1, No. 1. By Byrom Bramwell, M.D. Edinburgh : Young J. Pentland.

wood cuts and even coloured drawings. The scheme is a bold one, and if a proper supply of good material can be obtained and the high standard of the present number maintained this publication will be a great success; it is however a great tax upon one man and upon the resources of the small out-patient department of the Edinburgh Royal Infirmary.

THE VOICE AND ITS TRAINING.*

MR. C. LUNN read a paper at the Annual Meeting of the National Society of Professional Musicians at Cambridge, in January last, and this pamphlet gives that paper to the outside world. Mr. Lunn is known amongst us as a champion with many adversaries. His paper summarises and enforces the conclusions he has so long and so courageously advocated. It would be unfair to charge him with innovation; he lays no claim to originality. He claims, however, with all the ardour of a disciple, to restore the neglected system of the old Italian school of singers. He takes for granted that the old masters of that land of song knew how to sing and how to teach. He was trained under them; and what they taught empirically, with the ease of instinct, he professes to hand on to another generation and to defend on physiological grounds. At the outset he lays down the lines of the method of the old school. They may be reduced to these points: Correct inflation of the chest (*the physical force*), correct enunciation (*organic production*), independence of vocal sound as contrasted with or modified by the will or by consonants (*the effect, or pure sound*). These are expanded into six definite rules, which he takes separately and explains with considerable depth, precision and power, and illustrates with fulness and point.

His general argument may be stated in these terms: The human voice is a physiological organ which produces sound

* The Voice and its Training. By Chas. Lunn. Derby: P. B. Chadfield. 1889.

on the same principle and under the same conditions (*mutatis mutandis*) as sound under purely physical conditions is produced. Any method of sound-production by voice which fails to realise any of these physical conditions is essentially false production. Now accurate analysis shows that the rules and practice of the old masters were nothing more than the unconscious and almost instinctive realisation of these physical conditions in the vocal organ. Their system therefore is right, and the only one which can be accepted.

This closely reasoned pamphlet is not easy reading. But to those who will not only read but study it with that care which the subject demands, the rules and their development and defence will prove exceedingly helpful and suggestive. We do not doubt that Mr. Lunn is right in his views and contentions; we wish him all success in his polemic.

THE INSANE IN FOREIGN COUNTRIES.*

THIS is one of a class of books which is perhaps too large; it is written by an intelligent respectable gentleman with leisure and means who has made a tour of the principal countries of Europe where he has visited some of the chief hospitals and asylums for the insane, and now publishes an account of what he saw and was told, together with some information on the state of the law with regard to lunatics in each country. The book is illustrated with a few plates which are apparently more for ornament than use; it is handsomely printed and neatly bound, but can scarcely be regarded as of any serious value as a contribution to medical literature.

* *The Insane in Foreign Countries.* By William P. Letchworth, President of the New York State Board of Charities. New York and London.

TRANSACTIONS OF THE ROYAL ACADEMY OF MEDICINE IN IRELAND.*

THIS volume of "Transactions" is fully equal to its predecessors. It contains numerous papers on subjects in all departments of medical science, which are classified under the various headings of Medicine, Surgery, Pathology, &c. The book is well printed, and reflects great credit upon the editor.

A TEXT-BOOK OF HUMAN PHYSIOLOGY.†

THE author of this book starts with the excellent intention (according to the Preface) "to give concise and connected statements of well-established facts in such a form that they can easily be acquired by students, and in language that can not be misunderstood." Whether he has succeeded in carrying out his intention is, however, a question on which there must be grave doubt.

Turning a few pages from the beginning of the book, we come upon a description of the coagulation of blood which is so poor in information and so miserably expressed that we wonder whether a student could gain any notion whatever from reading it. There is a *sloppiness* about it only worthy to be compared with that of third-rate examination answers.

Hoping for better things, we turn a little further on to the chapters treating of the heart and blood-vessels. Here, in addition to the faults mentioned above, we even find a want of appreciation of elementary physical laws. Thus, it is stated that if the heart be listened to through a folded handkerchief, or if the stethoscope be applied at a little distance from the point where the first sound is heard with its maximum intensity,

* Transactions of the Royal Academy of Medicine in Ireland. Vol. vi. Edited by William Thomson, M.A., F.R.C.S. Dublin: Fannin and Co. 1888.

† A Text-Book of Human Physiology. By Austin Flint, M.D., &c. Illustrated. Fourth edition, 1888. New York: D. Appleton and Co.: London: H. K. Lewis.

this sound "loses the quality of impulsions and presents a well-marked valvular quality." In answer to this it may be said that a moderate knowledge of the phenomena of conduction of sound would shew that the valvular sound would be the first to disappear, while the sound of the impulse would be carried further. Again, it is here assumed that the muscle sound of the heart is similar to that produced by "any large muscle" during its contraction, whereas there are well-known and palpable differences between them.

The discussion of the nervous mechanism of the circulation is most meagre; and there is no reference, here or in other parts of the book, to the most important work of the day—Gaskell's "Investigation into the Innervation of the Viscera."

It would be wearisome to multiply instances of the incompetency of the work; for in reading through it one feels it to be a wilderness of common-place in which it seems impossible to find any oasis. One of the author's particular faults should, however, be mentioned, namely, his love of awkward and affected words: for example, he constantly uses "disassimilation"—one of the worst words with which physiologists have clogged their science, and only equalled by such as "anabolic" and "katabolic." If such a work as this is anywhere accepted as a text-book it speaks ill for the condition of physiological teaching in that country. Indeed, when a truly scientific text-book like Foster's is within reach there should be no chance for a work so lengthy and yet so trivial as this.

Miscellany.

AN UNEXPECTED DENOUEMENT. — When the Earl of — was Governor-General of India he had with him his little daughter, a girl of eleven years, who already shewed considerable literary tendencies, which her father was wont to subject to rather severe criticism and emendation not altogether to her satisfaction. One day Lord — having suggested that she should write a play, she objected that he altered what she wrote so much that she could not feel it was her own. "Very well," said his lordship, "you shall do it yourself, and act it; you can ask your own friends, and I shall know nothing about it till the curtain goes up." In due time the piece was written, and the drawing-room of Government House was crowded one afternoon to

see the play. The subject was not very original. In Act I. two unhappy lovers are separated for want of money, and the youth goes forth to conquer fame and fortune. Between Acts I. and II. eight years are supposed to have elapsed. In Act II. the lover returns, having won both, to place them at the feet of his mistress. But here matters took an unlooked for turn. "For thee, Angelina," says Edwin, "I have laboured: for thee I have achieved fame: for thee I have won fortune." *Angelina*: "I have not been idle, Edwin; behold the labour of my past years." (*Rings bell. Enter Nurse with seven small children! Tableau!*)

New Books, etc., Received.

- Forty-sixth Report of the Managers of the State Lunatic Asylum at Utica, Albany. 1889.
 Strathpeffer Spa: its Climate and Waters. By FORTESCUE FOX, M.D. London: H. K. Lewis. 1889.
 The Mechanism of the Circulation of the Blood through Organically Diseased Hearts. By HERBERT DAVIES, M.D. Edited by Arthur Temple Davies, B.A., M.B., etc. London: H. K. Lewis. 1889.
 Tooth Extraction: a Manual. By JOHN GORHAM. Third edition. London: H. K. Lewis. 1889.
 De la Lobéline dans la Thérapeutique de l'Asthme. Par le Dr. SILVA NUNOS. Rio de Janeiro. 1889.
 The Power of the Will. By TOM ROBINSON, M.D. London: Gilbert and Rivington. 1889.
 A Résumé of Experience at the Aural Clinique of Prof. Hermann Schwartz in Halle. By CHARLES H. MAY, M.D. Reprinted from the *New York Med. Journal* for May 25th. 1889.
 Scarlatinous Otitis. By CHARLES H. MAY, M.D. Reprinted from the *American Journal of Obstetrics*.
 A Clinical Study of Alopecia Areata. By I. DUNCAN BULKLEY, A.M., M.D. Reprinted from the *New York Med. Record*.
 On the Value of Repeated Doses of Arsenic. The same. Reprinted from the *New York Med. Journal*.
 On some Unusual Methods of Acquiring Syphilis. The same. Reprinted from the *Medical News*.
 Annual of the Universal Medical Sciences. Edited by CHARLES E. SAJOUS, M.D. Philadelphia: F. A. Davis.

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ORIGINAL COMMUNICATIONS.

PURPURA: A CLINICAL STUDY.*

BY ROBERT SAUNDBY, M.D. EDIN., F.R.C.P. LOND.

PHYSICIAN TO THE GENERAL HOSPITAL, CONSULTING PHYSICIAN TO THE
EYE HOSPITAL, THE HOSPITAL FOR DISEASES OF WOMEN, ETC.

DURING the summer of last year a succession of cases of purpura, chiefly of the hæmorrhagic form, were admitted into the General Hospital, and, with only one exception, they were all under my care. As I had previously only met with the disease in isolated examples, this unusual opportunity of observing a series of cases was regarded with keen interest by myself and my assistants.

Purpura is the name given to an eruption of hæmorrhagic extravasations into the substance of the skin. If the spots are rounded they are called *petechiæ*; if elongated, *vibices*.

Etiology.—These eruptions occur in many diseases in consequence of some pathological alteration in the blood or tissues induced by the primary disease; *e.g.*: (1) In eruptive fevers—plague, typhus, measles, scarlatina, and small-pox; (2) in various blood disorders—hæmophilia, scorbutus, pernicious anæmia, and leucocythæmia; (3) in pregnancy; (4) in Bright's disease and heart and liver diseases; (5) in Hodgkin's disease and in connection with some rapidly diffused sarcomata (Fagge); (6) in syphilis; (7) in various diseases of the brain,

* Read before the Midland Medical Society, October, 1888.

spinal cord, and peripheral nerves ; (8) from the administration of various drugs—*e.g.*, phosphorus, potassium ; (9) in ulcerative endocarditis ; (10) in connection with certain erythematous affections of the skin, erythema nodosum, urticaria pigmentosa, etc. ; (11) finally, they may occur in persons in good health, without previous illness, and especially in aged persons and young children.

Classification.—The following classification was put forward by Hillier and Tilbury Fox (Reynolds' System of Medicine, Vol. I., p. 790) :—1. Purpura simplex ; 2, Purpura hæmorrhagica ; 3, Purpura urticans ; 4, Purpura senilis ; 5, Purpura rheumatica.

That this classification is imperfect is shewn by the previous enumeration ; it is neither broad enough nor detailed enough to take in all forms. To me it seems better to retain the old classification : 1, Purpura simplex ; 2, Purpura hæmorrhagica ; keeping in one class all cases in which there is only an eruption and putting in the other all those in which the eruption is associated with hæmorrhage from one or other of the mucous surfaces, and not attempting to classify as purpuras those numerous cases in which hæmorrhages into the skin complicate other eruptive diseases.

Purpura hæmorrhagica is only purpura in its more intense form, wherein the hæmorrhagic dyscrasia has reached its highest point, and where the eruption is accompanied by *external* hæmorrhage. The seat of this hæmorrhage is most commonly the gums, or nasal lining membrane, less commonly that of the stomach or bowel, the urinary passages, the ears, or the lungs. *Internal* hæmorrhage takes place beneath any of the limiting membranes, serous or mucous, or into the substance of any organ or tissue containing blood vessels.

Post mortem examination has revealed hæmorrhages in the brain, retina, tonsils, lungs, spleen, heart, testes, medulla of long bones, beneath the pleura, pericardium, periosteum of ribs, parietal peritoneum, mucous membrane of mouth, stomach, intestines, and bladder.

The *onset* of the disease is often preceded by debility, or

anæmia, but the previous state of health may not have presented any notable departure from its usual standard. In certain individuals there is evidence of a previous tendency to bleed or bruise easily, which is illustrated by the following cases.

Case 1.—Purpura: Bleeding from Gums.—Ann Louisa E., 12, was admitted as an in-patient on July 10th, 1888. Her sister was brought up on June 3rd with a well-marked purpuric eruption, and on examination it was found that she also was affected in the same manner.

Family History.—Father suffers from rheumatism; mother healthy; do not bleed; eldest child died at six months, not from bleeding; mother no miscarriages; five other children alive—all these are healthy except the youngest, who, as mentioned above, was an in-patient under Dr. Wade, with purpura hæmorrhagica; the rest of the children are healthy; no purpuric spots, but when cut or scratched the mother says they bleed easily; they all bruise easily. No history of bleeding in the family, except that of the paternal grandmother, who often suffers from epistaxis.

Previous History.—Had scarlet fever and measles before three years of age, and German measles two years ago. About three years ago began to complain of pain in left side, and was giddy at times, so that on three or four occasions she fell down. Has had good food, including potatoës almost every day.

History of Present Illness.—Eighteen months ago she had a tooth drawn out. This was followed by considerable hæmorrhage, so that the socket had on the next day to be plugged. For the last year she has bled a little at the gums at night, so that her lips have been covered with dry blood in a morning. No epistaxis; no hæmaturia; no blood in motions. Mother has never noticed any purpuric spots on child; but when brought up to hospital five weeks ago there were some petechial purpuric spots over neck, shoulders, and arms about the size of a pin's head. After this, while under observation, no more spots appeared and the bleeding from gums was less. She was treated as an out-patient with ergotin $\frac{1}{2}$ gr. twice a day.

Present Condition.—On July 10th she was admitted, and it was then noted she was a fairly healthy looking girl, not anæmic. There were a few small purpuric spots on neck, shoulders, chest, arms, and legs; pulse 84, a little irregular; a pulmonary murmur heard over the pulmonary area; breath sounds normal; liver dulness an inch below costal arch; spleen could be palpated; urine 1022, amber coloured, slight flocculent deposit; a faint opalescence on boiling with acetic acid, no casts, no blood; temperature normal; no blood in stools. Her mother took the child out on July 13th, 1888.

Case 2.—Purpura Hæmorrhagica; Epistaxis; Heart Failure; Death.

William H. B., ætat 16, brass filer, was admitted into the General Hospital on May 1st, 1888, complaining of bleeding from the gums, which began three weeks previously. He had previously felt very weak and easily fatigued. The bleeding was a continuous oozing, requiring him to wipe his mouth frequently during the day, while at night his bed linen was stained with blood. Eating made the gums bleed worse, the least touch setting them bleeding. During this period he noticed that the slightest blow on the skin caused bruising. He is said to have always "bruised very easily." He has never had any serious illness, but five years ago he had an abscess of the jaw, which was "bad for two years." He was well fed, and had vegetables on most days. His father was a painter, he died fourteen years ago, and suffered from drop wrist and colic. His mother is living, but is subject to bronchitis. He has no living brothers or sisters, one child having been born dead, and the other dying at the age of three months. The patient was a pale lad, small for his age, and presenting on his forehead a large greenish ecchymosis, several square inches in extent, stated to have been caused by a blow. All over his body, arms, legs, and neck, were numerous irregular purpuric spots, varying in size from a pin's head to an inch square, and in colour, being variously red, yellow, and green. On the shins were two extensive green ecchymoses, which he attributed to blows got at

football. He stated that a few drops of blood had at times come from his nose. T., 100° F., P. 126.

His gums were smeared over with partially-clotted blood, but were pale, not spongy. His tongue was red and moist, appetite good, bowels regular, liver not enlarged. With the exception of some harsh breathing at the bases of the lungs and a systolic hæmic murmur at the base of the heart, the thoracic organs were normal. The urine was abundant, sp. gr. 1012, acid, and contained neither albumen nor blood. He was ordered milk diet with lemon juice, and turpentine in the form of drachm doses of the *confectio terebinthinæ* (equivalent to 15m. of oil of turpentine), rubbed up with peppermint water, thrice daily.

May 3rd. Patient seemed going on well. Temperature 98° F. He was hungry, so was ordered mutton diet. There was still some oozing from the gums, but no fresh spots on the skin.

May 4th. Temperature, M. 99 V. 101·2 F.

May 5th. Temperature, M. 99·2 V. 101 F.

May 6th. Temperature, M. 100·5 V. 99·5 F.

May 7th. Temperature, M. 100 V. 101 F. His bowels were only open once during these four days, so he was ordered a dose of *Mistura alba*.

May 8th. Temperature, M. 100 V. 102·5 F. As the oozing continued, the confection was ordered to be specially prepared with French turpentine.

May 9th. Temperature, M. 99 V. 104 F. During the morning there was some epistaxis, and in the afternoon at 4-15 the nurse noticed him lying asleep with blood trickling from his nose. I saw him at 4-45, when he was blanched; pulse 150, R. 24. Blood was running in a thin pale stream from the left nostril. A syringe of hazeline (*hamamelis*) was injected into the nostril without effect, and a pledget of lint soaked in hazeline introduced into the nostril seemed to increase the hæmorrhage. It was replaced by lint soaked in perchloride of iron, after which there was no more external

bleeding; but at 5.15 a copious tarry stool was passed in the bed. Twenty grains of ergotin were dissolved in thirty minims of water, and five minims of this solution were injected under the skin and directed to be repeated if the bleeding recurred. A mixture containing ten minims of the tincture of the perchloride of iron was ordered to be given every hour, and drachm doses of the *Mistura sp. vini Gallici* every half-hour; milk diet.

May 10th. Temperature, M. 100.5, V. 104. There was no more bleeding after the ergotin. He slept pretty well through the night, and continued to take the remedies ordered above. At 6.30 p.m. he was very blanched, pulse 150. 11 p.m. blood began to ooze from his mouth, and he appeared to swallow blood. The ergotin injection was repeated.

May 11th. Temperature, M. 102, V. 105 F. He passed a very fair night; no more bleeding. There were several fresh red purpuric spots on the legs, feet, and insides of thighs, but no fresh ecchymoses.

May 12th. Temperature, M. 100, V. 101 F. He had a quiet night, but at 4 a.m. he seemed unconscious, afterwards getting better. Pulse 126. During the night his mother removed clots of blood from his mouth, and there was a little oozing of blood from his gums. He passed two small black motions under him. Some difficulty was found in getting him to take his medicine and brandy mixture. There was a little more epistaxis in the evening.

May 13th. Temperature, M. 100, V. 101 F. He lay for the most part unconscious. Pulse 150; resp. 32. The same difficulty was experienced in getting him to take medicine, &c. Passed everything under him. A little continuous oozing from the nose went on all day. Towards evening he took milk more readily.

May 14th. Temperature, M. 99.5 F.; pulse 160; resp. 40. Patient unconscious; very pale. He had not spoken since the previous morning. Swallowed a little milk, but was plainly dying when seen at the morning visit. He died soon after, at 11 a.m.

The *post-mortem* examination was made the following day by Dr. G. F. Crooke, to whom I am indebted for the following notes:—"Subject extremely anæmic and emaciated; purpuric petechiæ and vibices scattered over the skin of trunk and limbs; the subcutaneous extravasations over bony prominences—*e.g.*, ant. sup. spine of ileum and over tibiæ—are larger in extent and resemble bruises; brown crusted sordes on lips and about the nose; gums and oral mucous membrane, as well as the conjunctivæ, quite white from anæmia. Three ounces of blood-stained serum in the pericardial sac, and eight ounces in each pleural cavity. The intestines look bluish black, from distension with tarry grumous liquid fæces.

Heart weighs 7 oz.; no valve lesions; spots and patches of sub-pericardial and sub-endocardial hæmorrhage; heart muscle generally of a pale yellowish white colour, except the peripheral layer, which is quite hæmorrhagic; microscopical examination shews most intense fatty degeneration of the muscular fibre.

Both lungs very anæmic, with sub-pleural hæmorrhages in both.

Spleen weighs 2 oz.; anæmic.

Kidneys weigh 6 oz., and are very anæmic.

Liver weighs 32 oz.: anæmic, soft, and flabby, of a light fawn colour throughout. Scattered here and there over the surface, as well as in the substance of the organ, are small, circular, opaque greyish spots, from one-twentieth to one-eighth of an inch in diameter, formed of liver tissue breaking down to form small cysts. Under the microscope these areas are seen to be foci of necrosis, the liver cells undergoing fatty degeneration and breaking down into a granular detritus, while the intercellular spaces are occupied by large, short, thick bacilli, congregated here and there into colonies, at the margins of which mobile bacilli are observed. Some are constricted in the middle, resembling the larger kind of *bacterium termo*; others preserve their thick, short, rod-like form, and all stain well with gentian violet after Gram's method. In their general character the organisms resemble the bacilli

sapro genes described by Rosenbach in his monograph. Cultivations in nutrient gelatine were made from the liver."

Case 3.—*Purpura* ; *Hæmaturia* (?) ; *Congenital Syphilis*.

The alleged predisposing influence of congenital constitutional syphilis receives some support from the following case, though it may be only a coincidence.

Clarence M——, ætat 17, was admitted April 30th, 1888, with a purpuric rash on his legs which had existed for four days. About three weeks ago he took cold and had a pain in his side, but he was not confined to his bed ; this got better ; but on the night of the 26th the rash broke out ; on the 25th and 26th his urine was very red. Mother subject to "rheumatics," father "has a pleurisy now and then ;" one sister died aged seven months ; one brother alive and healthy. Patient had "the fever" four years ago, after which his eyes were bad and he attended at the Eye Hospital ; he had never had rheumatism. He was a fairly healthy-looking lad with characteristic peg-shaped and notched incisor teeth. Over the lower part of both legs there was a large irregular area, slightly elevated, red and not affected by pressure, most marked on the front and sides. Within these areas were islands of normal skin, and the diffused redness was evidently caused by the fusion of smaller areas, as outside these large patches scattered on the legs and thighs were smaller spots slightly elevated and circular in shape. Over both arms there was some erythematous mottling. There was swelling, tenderness and pain on movement in the distal joint of one index finger. There were no abnormal physical signs, except a little harsh inspiration at one apex. The bowels were open and the motions free from blood. The urine was acid, sp. gr. 1016, containing a trace of albumen but no blood. He was treated with iron and arsenic ; the rash faded gradually ; the index finger got well and he was discharged cured on May 10th, eleven days after admission.

Case 4.—*Chronic Lithæmic Nephritis* ; *Purpura Hamorrhagica* ; *Death*.

There can be little doubt that chronic Bright's disease is a

common predisposing cause, though such severe examples as the following case are rare.

Ann D., ætat 64, was admitted into the General Hospital on December 13th, 1886, complaining of an eruption on her body and of feeling ill and feverish; she said that three weeks ago brown patches came on her face and arms which "all at once" became scaly and peeled off "like shavings," the scales being renewed. This rash spread all over her body. In the second week "blisters" rose all over her body, but principally on her hands; these broke and became red and sore; her nose bled and blood came from her mouth; her gums were very sore; her water was bloody and her motions dark; there was discharge from both her ears. The eruption was not painful except from the soreness of the blistered places. She had been subject to headache, but since the eruption she had been free from it. There was no history of any previous eruption, or of syphilis; she had rheumatic fever when a child. Her father and mother died early, she thought of "fever;" her only sister was alive and well.

On admission, her face was covered with crusts, like eczema, with blood dried in them. Her gums were covered with clotted blood, and her tongue, which had small ulcers on its lower surface, was coated with blood. The whole of the body was covered with a hæmorrhagic eruption the size of a pin's head or less; in some places there were patches of greater size, as if the hæmorrhages had run together. There were remains of blisters the size of threepenny pieces on the arms, which were covered with scaly scabs. There were no large ecchymoses, but below the left mamma there were a few bluish-red spots about $\frac{3}{8}$ of an inch in diameter. In the flexures of the elbows, knees, groins, and axillæ, as well as on the shoulders and buttocks, the skin was denuded of epidermis and bled freely. There was a very offensive smell from the patient. On the 15th the epidermis of the sides and soles of the feet came away leaving raw bleeding surfaces. On the 16th she rapidly became worse and died.

Abstract of Post-mortem Report on Ann D. Purpura hæmorrhagica. Death December 16th; necropsy 17th.

Entire body covered to a greater or less extent with small round purpuric spots, or large, irregular ecchymoses, accompanied with denudation of the epithelium, and in some places actual erosion or ulceration of the surfaces. Face covered with a mixture of dark and bright red spots. Gums eroded; no hæmorrhage into the tissue.

Brain: Basilar artery, atheromatous in places, vessels in pons and medulla dilated; brain otherwise normal; no hæmorrhages; no hæmorrhagic effusion into pleural cavities, but beneath the pleural covering on the diaphragm are several ecchymoses; lungs normal.

Heart, 11 oz.; hæmorrhagic suffusion into the cellular tissue around the great vessels; texture of muscle very soft, easily breaking down; valves healthy, except aortic cusp of mitral, which contained a patch of atheroma; no sub-pericardial or sub-endocardial hæmorrhages; aorta slightly atheromatous.

Liver, 3 lbs. 8 oz.; soft and congested; distinctly fatty.

Spleen, 2 oz., normal. *Kidneys,* 9 oz., slightly granular; cortex atrophic in parts. *Intestines,* hæmorrhage into the coats of the first part of the ascending colon; hæmorrhage into the substance of the right psoas and iliacus muscle, but in no other muscles so far as examined.

In a case recorded by Sir Walter Foster the outbreak of the disease followed a chill caught by running out in the snow. The case was peculiar in other respects, the onset being marked by an epileptic fit, which was followed by others.

Pathology.—In the absence of definite facts various theories have been started to account for this disease. We may take account of four of these—(1) Hæmic, (2) toxic, (3) mechanical, (4) neurotic. The hæmic theory starts with the undoubted fact that cutaneous and other hæmorrhages are common in pernicious anæmia, leucocythæmia, scurvy, &c.

Case 5.—*Anæmia; Purpura Hæmorrhagica.*—

In many cases of purpura, anæmia undoubtedly exists, as in this example.

Florence M., ætat 17, was admitted into the hospital on June 1st, 1888, complaining of bleeding from the nose, which had lasted six hours. She came in under Mr. Chavasse, but on the 3rd she was transferred to my care. Her parents were both rheumatic, and the father was subject to epistaxis. The only other child, a boy, was not liable to bleeding. There was no further history of bleeding in the family. Patient had had measles and scarlatina. She menstruated for the first time at the end of April, and was expecting to be unwell again when the nose-bleeding came on. This was the fourth attack of epistaxis she had had in two years, though none were so bad as this. Soon after admission the anterior nares were plugged and an ice bag applied over the frontal region. The hæmorrhage continued through the night; a plug soaked with alum was introduced into the nares, and the feet put in hot water. Tr. ferri perchlor., in half-drachm doses, was ordered three times a day. In the afternoon (June 2nd) purpuric spots were found on the feet and body, and the bleeding stopped. When seen by me at 1 p.m. on June 3rd she was very blanched, and had recently vomited about a pint of blood clot. She was ordered ergotin, gr. iij., *sub cute statim*. In the course of the afternoon she vomited about six ounces more altered blood clot, and at 4-30 gr. iss. more of ergotin were injected.

June 4th. No bleeding had recurred. A tarry stool had passed that morning. There were a number of new purpuric spots on the backs of the feet, the outsides of the legs and thighs; a group was on the left shoulder, and another on the epigastrium; but all the spots were quite small, like flea-bites. Tongue dry and brown; skin very pale; cheeks slightly flushed; pulse 144, resp. 80, temp. 99.6. She complained very much of headache.

Examination of Blood.—Red corpuscles pale, normal shape, reduced to 40 per cent.; white corpuscles increased 1 to 20. Hæmoglobin under 30 per cent. Blood coagulated so rapidly that these results were only approximately correct. Ergotin, gr. iij., injected at 11-30 a.m. At night the temperature rose to 102.8.

June 5th. Has passed a fair night ; another tarry stool ; no more hæmorrhage. Temperature at 8 p.m. 104° , pulse 144. Ergotin, gr. iij., injected at 2 p.m., and as much more by the mouth at bed-time.

June 6th. No more hæmorrhage ; tongue still brown in centre. A group of spots not previously noted was observed on the inside of the left leg. On ophthalmoscopic examination, both fundi were pale ; no hæmorrhages ; media clear. A fresh attempt to enumerate the red corpuscles failed, from their tendency to adhere together in clumps ; white corpuscles were increased, and red diminished ; there were also present a number of small spherical and rod-shaped bodies. An attempt at cultivation gave negative results. After this the patient had no fresh hæmorrhages or spots. The ergotin was stopped, and she took the tinct. ferri perchlor., m. x., every two hours. The temperature was quite normal after the 9th.

On the 14th the hæmoglobin was estimated to be 25 per cent., and on the day of her discharge this had risen to 30 per cent. She went out looking well, but still anæmic.

Case 6.—*Purpura Hæmorrhagica ; Hæmaturia ; Recovery.*

In other cases there may be no anæmia or predisposition to bruise or bleed, or any definite etiological fact to be laid hold of. This is illustrated in this case of purpura, with severe hæmaturia, in an otherwise perfectly healthy child.

Harold N., ætat 3, admitted into Hospital May 27th, 1888, with purpuric rash and hæmaturia. He came of a healthy family with no evident tendency to rheumatism, hæmorrhage or bruising. A year ago he had measles but had been quite well since. He had never previously had any spots on his skin, nor had his mother noticed that he bruised easily, or had ever passed blood before in his urine ; he had been well fed, mostly on bread, pudding and potatoes with green vegetables about twice a week, but not much meat. For some time he had had a little cough in the morning. Six days before admission he seemed ill and did not play as usual ; this continued all the week, and on the day before admission his mother noticed when

washing him that there were a few spots on his skin which she took for flea bites. In the afternoon he began to pass blood in his urine which was quite red; at night there were no more spots, but on the morning of admission she noticed spots all over his body and limbs, and his urine was still bloody. There had been no nose-bleeding, but on two mornings there was a thin line of dried blood on his lips. The motions had not been black or mixed with blood.

Patient was a well-nourished, rosy-cheeked, well-cared-for child. The spots varied in size from half an inch in diameter down to pins' heads, and were circular in shape and of a purple colour; they were most numerous on the right side of the abdomen, but were present more or less over the entire surface. There were two marks like bruises on the back. A little patch of dried blood was on the upper lip. The tongue was pale, bowels open, motions free from blood; temp. 99°, pulse 112, r. 28. There were a few râles and rhonchi over the chest and a little cough. The urine passed soon after admission was bright red in colour, and looked like pure blood; it was acid, and under the microscope there were numerous blood corpuscles. The blood taken by puncture from the skin contained a normal number of hæmocytes, but the hæmoglobin was reduced to 40 per cent. At noon he was given a draught containing half an ounce of turpentine and half an ounce of castor oil; he vomited a little at 3 p.m., and his bowels were open. at night; the motion was free from blood. The next day the hæmaturia was quite as great.

May 29th.—Hæmaturia persisting: still blood on lips in morning; a fresh crop of spots noted on the left side of the body. At 11.45 a.m. he had ergotin, gr. j. subcutaneously. Blood again examined, and found to contain 120 per cent. of red corpuscles; from one to three leucocytes in the field at once. In the evening, as the hæmaturia was unchecked, the injection of ergotin was repeated. At 9 p.m. he vomited and passed more bloody urine. His temperature ran up to 100.6, p. 144, r. 30, and he complained of

thirst and cough. After midnight he slept well, and his temperature came down. The next morning (May 30th) the urine was only smoky. On the 27th Dr. Crooke examined the blood for micro organisms, and attempted to make a gelatine cultivation, but the results were negative. There was no enlargement of the liver or spleen. The ergotin was repeated, as the urine continued to be smoky, till late in the evening, when it was free from blood. After this date (May 31st) there was no more hæmaturia, but a few fresh spots were noted on June 2nd, and on the same day there was slight epistaxis, the amount of blood lost not exceeding one drachm. The injections of ergotin were stopped on June 5th, and the same quantity, on pain, being given by the mouth for two days longer. He was then ordered Parrish's syrup, and on the 11th was made an out-patient, but remained quite well and was discharged.

The most contradictory statements have been made as to the proportion of fibrine present in the blood in this disease:—

Routier	...	0·905	parts per thousand.
Garrod	...	5·000	„ „
Frick	...	4·000	„ „
Thomson	...	2·000	„ „

As the last of these corresponds to the normal estimate, it is plain that there is not much support to the theory that there is actual deficiency of fibrine. In the case of the girl Florence M. the rapid formation of microscopic coagula was especially noted. Up to the present no satisfactory evidence of the nature of the hæmic change has been put forward.

The *Toxic* theory is very closely allied to the foregoing. It is based upon the facts that certain drugs and poisons, such as iodide of potash, phosphorous, the poison of snakes and of yellow fever, typhus fever, etc., are capable of producing purpuric eruptions and hæmorrhages. While the former theory supposed that something was taken from the blood, this implies the addition of something. Such a poison might clearly be produced by a pathogenic organism, and some researches have been made on this point.

In 1881 Ceci, of Prague, found in the blood of a case of malignant purpura an organism which he named *monas hæmorrhagicum*. He stated that when cultivated and injected into the veins of animals it caused hæmorrhages. These interesting statements have not so far been confirmed.

Balzer found micrococci in blood taken from the finger, and after death in the tissues, of a case of purpura.

In 1883 W. Russell asked Watson Cheyne to examine the blood and tissues of a case in which the capillaries of the heart were found to be stuffed with a *bacillus* measuring $\frac{1}{100}$ in. in length and $\frac{1}{300}$ in. in breadth and containing spores, generally two to each rod. In another case Cheyne found the capillaries plugged with micro-organisms, but this time they were *streptococci*, not bacilli.

Dr. Crooke, pathologist to the General Hospital, examined the blood of all my cases by the microscope and by cultivation, with only negative results, while he regarded the organisms found by him in the tissues of William H. as probably only putrefactive bacteria.

Interesting and suggestive as is this line of research, it cannot be affirmed that up to the present any facts have been elicited which throw light upon the etiology of the disease.

The *mechanical* theory assumes the existence of some structural alteration in the walls of the vessels permitting the escape of blood. Wilson Fox described a hyaline or lardaceous degeneration of the vessels in one case; hyperplastic endarteritis has been found by Hayem on one occasion, but was not present in another case examined by him. Cornil and Rigal have observed capillary dilatations. But on the other hand the blood vessels in many cases have been examined carefully with negative results, and the presence of such changes must be acknowledged to be exceptional. That a mechanical factor plays an important part in the development of the eruption is no doubt true. This is shewn by the frequency with which the eruption returns on the lower extremities after the patient is allowed to leave his bed and with its disappearance on his again assuming the recumbent

position. In the purpura of heart disease, Bright's disease, etc., the eruption is usually confined to the lower extremities.

The *neurotic* theory is based upon the occurrence of purpuric eruptions in the course of painful nerves; *e.g.*, sciatica, lightning pains of ataxy, etc. Extirpation of sympathetic ganglia has been followed by purpura when the arterial tension has been also raised by ligaturing the aorta. The essence of the theory seems to be that vaso-motor influences may control or permit hæmorrhage. This does not seem to be a position which is supported by what we know of the vascular mechanism. Even inflammation, in which there is not only vaso-motor paralysis, but marked change in the permeability of the vascular wall, is not usually associated by hæmorrhagic extravasation such as we see in purpura. On the other hand, it is very hard to explain such cases as those of the kind referred to, which have been recorded by unimpeachable observers, except by making an assumption perhaps quite as open to criticism.

There remains one other case, which, as it differs in its etiology from all the others, has been reserved to the last.

Case 7. *Injury to Finger; Purpura; Epistaxis; Blood in Motions; Recovery.*

John W. F., aged 11, admitted September 17th, 1888, with a purpuric rash on arms and legs and a hæmatoma under nail of ring finger of left hand.

Family History.—Father and mother alive and healthy; mother's family rheumatic; no history of bleeding in family; five other children alive and healthy; do not bleed; no purpuric spots have been noticed.

Previous History.—Has had measles and scarlet fever; no rheumatic fever; four years ago had an attack of epistaxis, lasting four hours; two years ago fell and hurt his knee, and was an in-patient under Mr. Pemberton for five weeks; never vomited blood, except after the epistaxis four years ago; no hæmaturia; his gums and lips have not bled, but mother has noticed blood on his pillow in a morning; no spots noticed till a month ago, and then they were thought to be flea-bites; no

history of excessive hæmorrhage from a cut or after extraction of a tooth; has had always plenty to eat, but has not taken much meat or many vegetables.

History of Present Illness.—A month ago had some purpuric spots on his legs; nine days ago had a slight accident to the ring finger of the left hand—he dropped a tumbler on to it; the end of finger at once went black and was very painful; this morning there was a thick purpuric eruption on his hand and forearm.

Present Condition.—Healthy looking lad; skin fair, eyes brown; hæmatoma beneath nail of finger, and a purpuric rash on left forearm with a peculiar distribution; the spots are thickly set on an area extending over the radial side of the forearm, the dorsum of hand, and proximal phalanges; the spots are close set, and in places the intermediate skin is red. This arrangement suggests a connection with the distribution of some vessel or nerve [? radial nerve]. There is another patch at the back of the left elbow, not extending over the olecranon; above each clavicle is a well-marked patch; there are scattered spots over the rest of body, extremities, neck, and face; also on lips, tongue, and on each conjunctiva. There are several bruises on the body. Heart, lungs, liver, and spleen appear normal. Urine contains a faint haze of albumen; no blood; no blood in stools. Blood examined with hæmatocytometer gives normal amount of corpuscles.

Sep. 21st. Stool to-day, after castor oil, contains a streak of blood. No fresh spots.

Sep. 23rd. A few fresh spots.

Sep. 25th. A few fresh spots over right deltoid and on left forearm. Fundus of eye free from hæmorrhages.

Sep. 30th. Fresh spots each day until this morning. Stool to-day contains a little blood.

Oct. 7th. Was up yesterday afternoon, and to-day fresh crop of small purpuric spots on legs; also a few on body and one on conjunctiva.

Oct. 9th. Again a few spots.

Oct. 11th. Fresh spots. Fundus of eye normal.

Oct 12th. Fresh spots.

The manner in which the purpuric eruption spread from the seat of the injury all over the body suggests the notion of a poison generated in the injured part which slowly diffusing itself gave rise to a general dyscrasia.

Though we are still entirely ignorant as to the nature of the agent which produces the dyscrasia, the balance of evidence points to the fact that it is to such a state that the disease should be attributed. There is not much to shew that it is an agent from without, but it is at least very curious that the disease appears to occur in epidemics. My cases nearly all occurred during May, June and July of last year. Dr. Russell's series of four cases were all collected during October and November in 1878, and it is perfectly certain that these cases are quite exceptional.

No reference has been made to errors of diet because it is generally understood that the hæmorrhagic dyscrasia so produced is called scurvy, and there are certain clinical differences which will be referred to under the head of diagnosis.

Morbid Anatomy.—The pathological changes met with are numerous.

The *heart* may have undergone extreme fatty degeneration, as in the case of William H.

The small spots of necrosis in the *liver* noted in the same were probably *post mortem* phenomena; they have not been previously observed.

The *spleen* and *lymphatic glands* are sometimes enlarged.

Ulcers have been described in the *stomach* and *intestine*, and sometimes there may be sloughing of the coats of the bowel.

Dr. T. D. Acland has described spherical masses in the *thyroid* of a case of hæmophilia and also in one of purpura (it is not stated whether there were hæmorrhages). The masses are said to have been composed of irregular epithelioid cells surrounded by round cells, and bounded by a layer of flattened elongated cells with well defined nuclei. Whether they are

constant, or what their significance may be is at present unknown.

Symptoms.—1. *The Localisation of the Seat of Hæmorrhage.*—Epistaxis is the most common form of hæmorrhage; but there does not seem any reason why the hæmorrhage should come in one case from the nose and in another from the bladder. The latter was probably the seat of the hæmorrhage in the case of the little boy Harold N., as there were no indications of renal complication, *e.g.*, renal tube casts or casts of the ureter.

2. *The want of relation between the constitutional symptoms and the amount of hæmorrhage.* That is to say, a small continuous loss of blood in the case of W. H. B. was associated with much more severe symptoms than was the free hæmorrhage in the other two cases, though as he had been bleeding for three weeks before admission it is possible that he had lost a larger quantity of blood.

3. *The state of the blood.* The number of hæmocytes may be very much reduced even in favourable cases, as in Florence M., where they reached as low as 40 per cent. In two of Dr. William Russell's fatal cases before death there were, respectively, 22 and 12 per cent. of corpuscles. In some instances there is an increase of leucocytes, but this is not constant. The hæmoglobin is also reduced, but in proportion to the loss of corpuscles only. My cases show that micro-organisms are by no means constantly present, and very different organisms have been described by those who have found them. At any rate, nothing worthy to be regarded as a pathogenic organism has yet been described.

4. *The temperatures* recorded in my cases are not exceptional, as in Dr. Russell's similar temperatures were noted.

5. No *retinal hæmorrhages* were seen in any of my cases; they cannot therefore be so constant as has been asserted.

6. The *gums* were normal in every instance except case 2, where they were simply pale; in no case were they spongy.

Diagnosis.—The diagnosis of purpura hæmorrhagica has to be

made from *hæmophilia* on the one hand, and from *scurvy* on the other.

Hæmophilia as it is at present understood is *always a congenital and persistent condition*. Purpura hæmorrhagica may be an acquired and transitory hæmophilia, but that does not concern the question of diagnosis. Cases of difficulty may arise, as in the first of this series, which may be regarded as an example of hæmophilia in a slightly pronounced form.

The state of the *gums* is characteristic of scurvy, as they are swollen, spongy, and gangrenous. Though it has been stated that they may be similarly affected in purpura, this is very exceptional, and perhaps doubtful. Retinal hæmorrhages are very rare in scurvy, but they are evidently not very constant in purpura. Large bruises are more common in scurvy than in purpura, but cannot be said to be diagnostic.

Scurvy, as is well known, is due to improper diet, especially to deficiency of vegetable food. Where it is known that the food was good and sufficient the diagnosis of scurvy is hardly reasonable; still where any doubt exists lemon juice may be administered, in addition to any other treatment indicated, and will soon settle the point. Such a doubt did exist in my mind in the case of William H., but the complete failure of lemon juice dispelled it.

Prognosis.—The prognosis should always be very guarded, as many fatal cases have been recorded. Dr. Russell, in the paper already alluded to, gives five cases, all of which were fatal; Dr. Mouillot, at the Irish Academy of Medicine last year, read notes of two fatal cases; Dr. John Phillips, in a communication to the British Medical Journal two years ago, refers to three cases of which two were fatal.

The causes of death appear to be (1) heart failure; (2) cerebral hæmorrhage; (3) ulceration and sloughing of the bowel; (4) gangrene of other parts, *e.g.* the genitals, or skin.

Treatment.—The experience gained in these cases shews that recovery *may* take place independently of treatment, and that any drug may gain credit for the cure. There are two types of

cases in which the efficacy of remedies may be tested—1, when the bleeding is persistent or recurrent, and 2, when fresh crops of spots continue to appear for a long time. In the treatment of severe hæmorrhage *turpentine* had a fair trial in small and large doses. These large doses were recommended by Neligan, and the Dublin school still believes in their efficacy, judging by the report of a recent debate at the Irish Academy of Medicine. In my hands *turpentine* was a complete failure. On the other hand, the *hypodermic injection of ergotin* was in every case successful in arresting hæmorrhage; when given by the mouth it was evidently much less useful. In some cases the injections caused pain and swelling, with some local erythema; but the trouble was only temporary. For the treatment of persistent eruptions I have not been able to discern an equally sure means. Ergotin by the mouth, *turpentine* in small doses, iron with saline purgatives, and arsenic were tried; and as all these cases ultimately got well, there is not much to complain of, but the recoveries cannot be distinctly ascribed to the action of any of these drugs.

THE PRINCIPLES OF INFANT FEEDING.

BY ALFRED H. CARTER, M.D. LOND.

SENIOR PHYSICIAN TO THE QUEEN'S HOSPITAL, BIRMINGHAM.

WHAT is a suitable food for hand-fed infants? By a suitable food I mean a food that is retained with comfort and ease, that gives rise to no gastro-intestinal irritation, that contains all the principles necessary for growth and development in their proper quantity and proper proportion, and a food which is pleasant to take. It is easier to state the question than to answer it; but, with settled notions as to fundamental facts, systematic investigation, and careful observation, the difficulty of finding an answer may be reduced to very slender proportions. It often happens that valuable time is lost, that the child sustains serious

damages, and that attendants become hopelessly demoralised by groping about in a haphazard empirical fashion—first trying this and then that food—with no data for forming conclusions on past experience, or arriving at clear indications for future guidance.

If we enquire into the circumstances which lead to the disagreement of artificial food, we find that they fall under two classes: first, those which relate to the food, and secondly, those which relate to the condition of the child. The first group includes mistakes in the quality of the food, mistakes in its quantity, mistakes in the frequency with which it is taken, and mistakes in the mode of administration. The second group includes all inherited and acquired disorders of infancy, especially those which immediately affect the alimentary canal. The latter are generally induced in the first instance by unsuitable food; and the failure of subsequent trials of various foods is often wrongly ascribed to some qualitative fault, when it is really due to disorder of the stomach and bowels. It must also be borne in mind that two or more factors are often combined in causing food to disagree. The first point then upon which I would insist, is the necessity (in any case in which food disagrees with an infant) of conducting an enquiry as to the cause or causes of such disagreement upon some systematic plan. For this purpose the following tabular statement may be of service, and may readily be carried in the mind.

TABLE A.—CAUSES OF UNSUITABILITY.

Errors in Food.	{	Quality.	{	Indigestible ingredients.
			{	Impurities.
			{	Absence of necessary ingredients.
			{	Disproportion of necessary ingredients.
	{	Quantity.	{	Too much.
			{	Too little.
			{	Too often.
			{	Too seldom.
Disease.	{	Frequency.		
		Mode of administration.		
		General		
		Local (<i>esp.</i> Gastro-intestinal disease).		

The question as to what is a proper artificial food for an infant cannot be answered in the sense of formulating a diet

which shall suit every child. Any attempt of this kind which ignores the "personal equation" can only end in failure. But it is nevertheless of the highest importance to acquire clear notions as to the standard requirements of a normal healthy child, under normal conditions. Now, there are two methods by which we may work with this end in view. On the one hand, by a long series of empirical trials, we might hope that at some time or other experience would provide materials for some inclusive generalisation; and, on the other hand, we might endeavour to construct a food on a scientific basis, which shall correspond as clearly as possible with the natural food of infants—namely, mother's milk. Of these two methods, the latter alone is likely to lead to satisfactory results. The method, however, in practice is not as simple as it appears. In the first place it is desirable to obtain a trustworthy analysis of average human milk—a proceeding which is surrounded by so many difficulties, that it is doubtful whether any of the older analyses can be trusted. That by Vernois and Becquerel, which has been copied from text-book to text-book, is certainly wrong, especially in the estimate of casein, which is far too high. It is the old difficulty—physiologists and chemists are not medical practitioners, and medical practitioners are for the most part neither physiologists nor chemists; and thus those who carry out scientific researches cannot put them to the test of actual practice, and *vice-versa*.

The albumenoid constituents of milk are of a very complex nature. By acidulation of any sample of milk, human or otherwise, a dense precipitate goes down consisting of casein together with fat. If this be filtered off and the filtrate be boiled, another precipitate may be obtained consisting of serum-albumen. If this, again, be filtered off and a solution of tannic acid be added to the filtrate, a third precipitate may be obtained, albumenoid in nature, but of a composition not properly understood. Thus we see that there are at least three groups of albumenoids in milk—casein, serum-albumen, and a third group of uncertain nature. An analysis of cows' milk, made by me

with the assistance of Mr. Campbell (our dispenser), yielded the following results:—Casein, 2·73 per cent. ; serum-albumen, ·348 per cent. ; other albumen, ·348 per cent. The quantities of each vary considerably in the milk of different animals, and possibly their physical constitution varies also ; and if this be so, it is not at all improbable that such variations may have an important bearing on the practical question of infant feeding, though as yet our knowledge is insufficient to arrive at any exact conclusions on the subject.

Not only must food for infants resemble mothers' milk as nearly as possible, but its materials should be cheap and ready to hand. And, further ; if we are to use them intelligently, they must be of a simple and well-understood composition. The patent foods with which the market is flooded do not conform to these conditions. Some which are good are dear ; many which are cheap are bad and untrustworthy ; and it is true of all that their composition is complex and for the most part unknown to those who actually use them. In using them we are mere empiricists, and the dignity of our art is endangered by being obliged to rely upon the instructions printed on the labels. We are at the mercy of the reckless audacity of unscrupulous manufacturers ; and being unaware of the exact composition, of such foods we cannot tell, in the event of their disagreeing, whether the fault is on the part of the food or of the child, and generalisation is rendered impossible.

If, therefore, patent foods are rejected as undesirable, we must fall back on some kind of milk. As already said, a chemical composition of the milk of different animals varies widely, some corresponding much more closely than others to that of human milk. But none of them correspond sufficiently closely to make further modification unnecessary, and therefore we may as well resort forthwith to the milk which is cheapest and most easily accessible—viz., cows' milk.

Now cows' milk is not assimilable by infants in its normal state, and for these reasons :—It contains too large a proportion of casein, and the coagula produced by the gastric secretions

are too large and firm to be easily digested. Again, while human milk is alkaline and free from all micro-organisms, cows' milk is acid, and, unless properly protected, contains innumerable organic germs. Accordingly, in order to make cows' milk available as an article of food for infants, its casein must be diluted, its objectionable mode of coagulation must be obviated, its acid reaction must be corrected, and it should be sterilized. It is obviously impossible to dilute one ingredient of milk without diluting the whole, and reference to Table B shows that the casein cannot be sufficiently diluted without at the same time reducing the proportion of the fat and sugar so far as to deprive the milk of its nutritive properties to a very marked degree. Sugar and fat must therefore be added.

* TABLE B.—COMPARATIVE PER-CENTAGE COMPOSITION OF VARIOUS FOODS.

	Reaction	Starch	Water	Total Solids	Fat	Proteids	Sugar	Ash
HUMAN MILK ...	Alkaline	0	88	12	3·4	1·2	7	1·2
COW'S MILK ...	Acid	0	87	13	4	4	4·5	7
COW'S MILK ...	1 } Acid	0	95·6	4·3	1·3	1·3	1·5	2·3
WATER ...								
COW'S MILK ...	7 } Acid	0	93·4	6·6	2	2	2·25	3·5
WATER ...								
CONDENSED MILK ...	Neutral	0	28	72	10	10	50	2
CONDENSED MILK ...	1 } Neutral	0	86·6	10·3	1·4	1·4	7·1	3
WATER ...								
MELLIN'S FOOD ...	3 } Acid	Trace	91·7	8·2	2	2·1	3·6	4
MILK ...								
WATER ...								
BARLEY WATER ...	1 } Faintly	5	90·7	9·2	2·6	2·6	3	4·6
MILK ...	2 } Acid							
CREAM ...	2							
MILK ...	1 } Alkaline	0	88·4	11·5	4	1·1	6·2	2·1
LIME-WATER ...								
SUGAR-WATER ...	3							

* *Rotch. Arch. Pediatrics.*—August, 1887.

The above conditions have never been better fulfilled than by the formula first introduced by Dr. Arthur V. Meigs, of Philadelphia, some two or three years ago. I have used it largely; and the longer my experience of it the more strongly am I convinced that its composition rests upon a sound scientific basis. The merit of this formula is not so much in the appropriate proportion of proximate principles as in the adaptation of a food so ready to hand as cows' milk, without the introduction of foreign ingredients. It is as follows:—Dissolve 17½ drachms

of sugar-of-milk in a pint of water. In order to economise the sugar and to limit the risk of decomposition, I generally direct only half of this quantity to be made at one time. It is easy to cut down a chip box to contain just the amount required, and so to avoid the trouble of weighing. The solution should be properly corked and kept in a cool place. Each meal is made up in the proportion of two teaspoonsful of cream, one of milk, two of lime-water, and three of sugar-water. This makes just one ounce of food. The milk is sufficiently constant in composition. But of course it is necessary that it should be fresh and unskimmed. On the other hand, the composition of cream varies much. In large dairies where it is removed by centrifugal apparatus, it is fairly constant, containing from 30 to 35 per cent. of fat; but cream skimmed off by hand rarely contains more than 15 to 20 per cent. The latter is the strength of the cream used by Dr. Meigs; but if centrifugally-separated cream is used it must be diluted with an equal bulk of water. As the child grows older, I make the following modifications:—Using the original formula for the first two months, I add an extra tablespoonful between two and four months of age, and another between four and six months. A glance at the Table B will show the close resemblance of this food to mother's milk.

The next best standard foods for infants are milk and barley-water and condensed milk. To make barley-water one heaped-up tablespoonful of pearl-barley should be added to a pint of water, and simmered down to two-thirds of a pint. Then add fresh water up to a pint, and strain. It is a good plan to put a stick of cinnamon into the barley-water while making. For each meal during the first month, one part of cows' milk should be added to three parts of barley-water; from 1 to 4 months two parts of milk to three parts of barley-water; from 4 to 6 months equal parts of each. The mixture should be well sweetened with milk- or cane-sugar; and one part of cream may be added with advantage. If cream is not obtainable, about half a teaspoonful (or more) of cod-liver oil and malt extract three times a day. In food of this kind the casein is well diluted; the

slightly viscous character of the barley-water prevents the food from clotting in large lumps in the stomach ; and the added cream and sugar make good the deficiency of these ingredients, which arises from dilution.

Condensed milk has many decided advantages. It is pure ; its composition (for the same brand) is very uniform ; it is cheap and is easily carried about ; and from the large proportion of cane-sugar, it does not readily decompose, even in hot weather. I much prefer the sweetened to the unsweetened brand, from the extreme liability of the latter to decompose when once opened if not quickly used. There is no excess of sugar after the proper dilution. To begin with, it should be diluted at least seven times. The milk and cane-sugars together are about 50 per cent.—15 per cent. of the former and 35 per cent. of the latter. This diluted seven times gives a percentage of 7, which is just about the average amount in human milk. It has, however, one great defect after dilution, namely, a deficiency in the proportion of fat, which is only about 1 per cent. instead of from 3 to 4 per cent. I am certain, from extended and careful observation at the Children's Hospital, that children fed exclusively upon condensed milk are particularly prone to rickets ; and I attribute this to a deficiency of fat in the food. Though all circumstances and influences which tend to depress vitality constitute important predisposing causes of rickets, I regard the want of fat in food—at least in some cases—as a determining cause. In several cases where the initial symptoms of rickets have been observed, they have disappeared, and the child has regained normal health, with practically no other treatment than cod-liver oil with or without malt extract. I therefore strongly recommend that all infants fed on condensed milk should either have cream added to their food or take cod-liver oil.

I draw attention to these three foods—Meig's formula, barley water and milk, and condensed milk—as standard foods for the artificial nourishment of infants. Now and again special idiosyncracies will be met with which call for special measures.

If proper precaution, however, be taken to prepare milk as described, more particularly with regard to free dilution in the first instance, with only gradual increase of strength subsequently, I am convinced that should disagreement with the child occur, it almost always depends not upon the quality of the food, but upon either the conditions under which the food is given, or upon the presence of some gastro-intestinal or other disorder on the part of the child.

(To be continued.)

REPORTS OF CASES.

CASES OF HEAD INJURY.

BY E. R. NASON, M.B. CANTAB.,
HOUSE SURGEON TO THE GENERAL HOSPITAL, BIRMINGHAM.

Recovery after Severe Compound Fracture of the Vertex with loss of brain substance and fracture of the base.—Under the care of Mr. Bartleet—from notes taken by Mr. W. S. Nason, Assistant House Surgeon.

S. B., aged 25, while working at a circular saw on the evening of Dec. 19th last, was struck on the right side of the head, with great force, by a piece of wood which flew from the saw. He was brought to the General Hospital in an unconscious condition. Respiration and pulse were both slow and feeble, and there was partial paralysis of the left side. On examination a compound comminuted depressed fracture of the skull in the right temporal region was found. Several fragments of bone were driven deeply into the brain which was escaping from the wound. Shortly afterwards, without an anæsthetic, Mr. Bartleet enlarged the wound and removed with the aid of a pair of polypus forceps and the forefinger, ten pieces of bone of various shapes and sizes, which when placed together covered a circular

area two and a half inches in diameter. The forefinger passed quite three inches within the cranial cavity and a considerable quantity of brain substance came away with the pieces of bone. The hæmorrhage was profuse and very difficult to check, the middle meningeal artery being torn across, but it was eventually controlled by plugging with two sponges which were pushed within the cranial cavity. Antiseptic gauze and salalembroth wool were placed over the sponges and the patient conveyed to the ward, supposed to be in a hopeless condition. At 9.30 the dressings were changed, but sponges left *in situ*. Pulse improving.

Dec. 20th. Wound redressed and sponges removed, surface of brain covered with blood clot. Temp. 100'4. Urine drawn off by catheter. Patient quite sensible, but still unable to move left arm or leg except very slightly. A great deal of pain at night, relieved by small doses of opium. Ordered calomel, gr. v.

Dec. 21st. Calomel repeated. Pains less. Answers questions rationally.

Dec. 22nd. Pulse worse at night again, and pain more severe. Patient wanders a little at times.

Dec. 23rd to 26th. Wound dressed each day, no suppuration ; still uses right side more than left.

Dec. 27th to Jan. 2nd. Improving each day, but complains of severe headache at times.

Jan. 3rd. A thin watery discharge is coming in considerable quantity from the right ear and soaks through the dressings.

Jan. 4th. Discharge from ear still profuse ; Temp. has risen to 102, and patient complains of sore throat.

Jan. 5th. Throat better and temp. normal ; discharge still continues.

Jan. 10th. Discharge from ear, which has been gradually diminishing, has now stopped.

Jan. 11th. Pain in head has disappeared ; wound is granulating healthily.

Jan. 12th to 24th. Has steadily improved but has complained of a singing in right ear during the last few days.

Feb. 5th. Wound completely healed.

From that time patient made an uninterrupted recovery, and has now gone back to work wearing a protecting metal plate. There is now no loss of power on the left side, and mentally and physically patient is as well as he was before his accident.

There is little doubt that the severe hæmorrhage in this case acted very beneficially, first in thoroughly cleansing the cavity made in the brain and washing away any impurities which might have been introduced. And secondly, in reducing the subsequent tendency to inflammatory complications.

PERISCOPE.

RENAL AND URINARY DISEASES.

BY ROBERT SAUNDBY, M.D. ED., F.R.C.P. LOND.

The significance of Peptonuria in Pregnancy. By Dr. Koettwitz, *Allgemeine Medicinisch-Central-Zeitung*.—According to this writer peptonuria in pregnancy indicates the death of the fœtus. This statement needs confirmation. The test for peptone is the formation of a pink colour with Fehling's solution in the cold. It is best to dilute the reagent.

A hint for facilitating the microscopical examination of the Urine.—When attempting to examine urine under the microscope for casts, epithelial cells, and other organic bodies, a good deal of annoyance and difficulty is sometimes caused both by urates and also, when the specimen is not quite fresh, by fermentation and putrefactive products. In order to obviate this difficulty, and with the further view of preserving the specimen, Dr. M. Wendringer advises that the urine should be mixed with a nearly saturated solution of borax and boracic acid. This dissolves the urates and keeps the urine from fermenting, and at the same time exercises no destructive effect upon the casts and epithelial elements which it is desired to examine. The solution

is prepared by mixing 12 parts of powdered borax in 100 parts of hot water, and then adding a similar quantity of boracic acid, stirring the mixture well. It is filtered while hot. On long standing a small deposit crystallises out, but clings to the side of the vessel, so that it does not interfere with the transparency of the liquid. The urine to be examined is put into a conical glass, and from a fifth to a third of its bulk of the boracic solution added to it and agitated with it. The urine will be found to become clear in a short time—*i.e.*, if there is no cloudiness due to bacteria; and it will remain unchanged for several days. If it is only wanted to clear the urine and to make it keep for a day or two, the addition of a smaller quantity of the boracic solution is sufficient. If a third of its bulk is added, no fermentation or putrefactive processes take place, even if the glass is left uncovered in warm places. Albumen, too, if it exist, is not coagulated. The organic elements—as epithelial cells, casts, blood corpuscles, &c.—collect so quickly, without undergoing any morphological change at the bottom of the glass, that the first drop taken up by the pipette usually proves a satisfactory specimen.—*The Lancet*, April 6th, 1889.

Propeptonuria, or Hemialbumosuria, in Measles.—Propetone, or hemialbumose, is known to exist in the urine in many diseases in addition to osteomalacia, in which it was first found by Dr. Bence Jones. Thus it has been detected in abscess of the liver, septicæmia, hip disease, peritonitis, endocarditis, parametritis, spinal curvature, Bright's disease, and in the puerperal state. Dr. Loeb, of Frankfort, now writes that he has found it in the urine of nine patients with measles out of twelve cases of the kind in which he examined the urine for it. The method of testing employed by him is as follows:—Sulphuric acid added to the urine drop by drop causes, if propetone is present, a copious, white, flocculent precipitate, which disappears on heating, but re-forms if the liquid is allowed to cool. Acetic and hydrochloric acids will give a similar reaction. It must be remembered that an excess of acid will re-dissolve the precipitate; therefore it is necessary to be careful to add it

slowly. As a rule, in the cases of measles examined, the reaction was obtained for about two days at the beginning of the affection after the temperature had begun to go down, but before the rash had disappeared. Dr. Loeb found in several of his cases some enlargement of the liver, which he thinks may have some connection with the change in the urine. He also suggests that perhaps the skin affection is connected with the formation of propeptone, as it has been found in patients suffering from various affections in which the skin is implicated; thus Leube found it in urticaria, Ter-Gregorianitz in diffuse dermatitis, and Lassar was able to produce it in animals by rubbing petroleum ointment into the skin. Regarding the relation of propeptonuria to the condition which gives the so-called di-nitro-benzolic acid reaction which is frequently found in typhoid, scarlatina, advanced phthisis, and other febrile diseases, Dr. Loeb has found that its presence does not always imply the existence of propeptonuria, though in many cases the former condition co-exists with it.

On the Presence of Free Uric Acid in the Urine as a Test of the Existence of the Gouty State.—Dr. Arnold Schetelig (*British Med. Jour.*, 1889, vol. i., p. 1,227).—Dr. Schetelig has proposed to determine the quantity of uncombined uric acid present in the urine by first determining the whole quantity present, and then allowing an equal portion of urine to pass through a filter charged with uric acid, the free uric acid being retained by the filter which the water passes through. In gout he finds from 25 to 50 per cent. or more of the uric acid is present in the uncombined crystalline form, and by this means true gout can be detected.

The Influence of Phosphate of Soda on the Excretion of Uric Acid.—Dr. A. Haig (*Brit. Med. Jour.*, 1889, vol. i., p. 1,227).—Dr. Haig has found that all specimens of sodium phosphate do not cause an increase in the elimination of uric acid. This effect of the drug was hindered by the presence of acids or acid salts, and he recommended that in all cases it should be combined with a little bicarbonate of soda. He considered it of special use in the mental depression of the uric acid dyscrasia.

On the Functions of the Glomeruli of the Kidney: A Contribution to the Study of Albuminuria.—J. G. Adami (*The Practitioner*, April, 1889).—The filtration theory of the glomerular function is inadequate to explain the undoubted selection effected by the glomerular wall, a result which dead animal membrane at any rate cannot produce. Thus albumen always transudes in experimental filtration of blood serum through animal membrane. In the author's experiments, where the renal arteries of the frog were ligatured and blood serum containing hæmoglobin in solution injected even under very low pressure, hæmoglobin was found in the capsular spaces, though no noticeable quantity of urine was secreted. Immanuel Munck, in his experiments with the extirpated kidney, found that the secretion was richer in chloride of sodium (20 to 67 per cent.), sulphate of sodium (45 to 74 per cent.), and sugar (60 to 90 per cent.) than the blood serum passed through the kidney. The absence of albumen from normal urine is due to this selective function of the glomerular epithelium; and the presence of it in those cases called transient-functional, febrile, toxic, and functional is due to its derangement.

Suppression of Urine seven days in a child two years old.—Dr. E. P. Bernardy, in a paper read before the Obstetrical Society, Philadelphia, gave the details of an interesting case:—Was called in to see the child August 17, 1888. He had been ailing for a few days, and was suffering from nausea and vomiting; bowels loose; tongue clean, white, and flabby; skin white, eyes dull, pulse quick, but no fever. Pepsin mixture was ordered. The next day stomach was irritable, and he could not retain anything on his stomach; pulse full and quick, but no fever; was informed that he had not passed urine for some time; ordered xx gttæ. spt. æther nit. in warm water every hour or two. The following day condition about the same, but passed a quarter teaspoonful pure blood from the penis. Examination over region of bladder shewed no indication of fluid. Ordered warm digitalis and flaxseed poultice applied on region of kidneys—a bitart. potassa mixture, with infusion digitalis internally.

Next day shewed no improvement, and twitchy movements of the hips and lower extremities were easily started.

On August 21, 22 and 23, the symptoms increased to an alarming extent, the skin being burning hot, and no urine being passed, close examination over bladder shewing it to be empty. Six dry cups were applied over the region of kidneys, and five hours afterward he passed a large quantity of clear urine.

August 25, all nervous symptoms abating, he passed urine of a light yellowish colour, and a general improvement was manifest. This continued, and the patient was discharged cured, September 5, 1888.

The case was interesting on account of its rarity, even partial suppression of urine resulting in coma, convulsions and death. — *Journ. Am. Med. Ass'n.*

Unilateral Nephritis.—At a meeting of the Pathological Society (*Lancet*, April 20th, 1889.) Dr. Crooke read a paper on Unilateral Interstitial Nephritis, caused by pressure upon the ureter and hilus. The changes, of which he shewed several microscopical specimens, were produced by mechanical pressure, the results being histologically analogous, if not identical, with the changes found in that form of disease known as granular contracting kidney. In one case the pressure was limited to the excretory duct of the kidney, whilst in another it was exerted on the blood-vessels as well. But while the result in both was the same—viz., atrophy and contraction of the kidney—under the microscope histological differences were seen. The first case, a girl of sixteen, was one of cystic tumour in the right broad ligament, which pressed on the ureter; the urine was albuminous, and a few granular casts were found. Ovariectomy was done, but death occurred six weeks later of bronchitis and purulent peritonitis. The right kidney was much contracted, the capsule thickened, and the surface granular. On section it was tough, but there was no visible thickening of the arteries or signs of dilatation of the pelvis or ureter. Microscopically there was marked dilatation of the convoluted tubules in the sub-capsular portion of the cortex, the majority of which were

distended with a clear coagulated exudation, and shewed atrophy of their epithelial lining; there was dense small-celled infiltration of the inter-tubular stroma, and a few of the Malpighian corpuscles were seen dilated and filled with exudation. In parts of the cortex were oval spindle cells, which shewed organisation and contraction. The opposite kidney was large, and was the seat of cloudy swelling. There was no dilatation of the ureter, and there was absence of glomerular and arterial changes. The second case occurred in a young man aged twenty-one. It was one of chondrifying sarcoma, with several growths, one of which pressed on the left ureter and vessels. There was marked endarteritis of the smaller branches of the renal artery, general fibroid degeneration of the cortex, with thickening of the stroma, almost indistinguishable from arteriosclerotic granular nephritis. The right kidney was natural. The non-dilatation of the ureter might be explained by the pressure on it being relieved when the tumour rose above the pelvic brim. The vascular change was probably the most important one. Dr. Carter had recently observed a case in which an aneurism pressed on the renal vessels of one side, and produced changes practically the same as those now recorded.

Nephritis as a Sequel of Whooping-Cough — Dr. Stefano Mircoli, of Monterubbiano, has lately called attention (*Gazzetta degli Ospitali*, Jan. 13) to the occurrence of nephritis as a *sequela* of whooping-cough. In 1887, among ten children who suffered from the disease, the attack was followed in two by nephritis, which proved fatal in one of them. The necropsy left no doubt as to the existence of nephritis. In 1888, among thirty-five cases of whooping-cough, Dr. Microli met with nephritis in four. Two of these died; and in one of them a *post mortem* examination was made. The kidneys were seen with the microscope to show severe parenchymatous nephritis. No cultivation experiments could be made to determine whether the disease was parasitic or not. The microscope showed no trace of micro-organisms.

Morphine in Chronic Uræmia.—Dr. Stephen Mackenzie read

a paper at the Medical Society on April 8th (*Brit. Med. Jour.*, April 13th, 1889) on the treatment of chronic uræmic symptoms by hypodermic injections of morphine, long advocated by Dr. Loomis, of New York. He related two cases in which benefit had always followed its administration. The symptom for which it was used was urgent dyspnœa. Dr. Wm. Carter, of Liverpool (*Ibid*, April 27th, 1889, p. 943), has since laid down, as the indication for the use of morphine, uræmia with *dilated pupils*.

Dujardin-Beaumetz on Recent Advances in the Treatment of Diabetes.—The most noteworthy innovation in the pharmaceutical treatment of diabetes is the administration of arsenicated lithia, which, though it may not have realized the sanguine anticipations of its introducer, Dr. Martineau, is nevertheless of service. The author gives eight grains of carbonate of lithium in a glass of Vichy water, to which two drops of Fowler's solution is added, to be taken before each meal. In diabetes of nervous origin, characterized by extreme polyuria, he gives 10-grain doses of antipyrine, sweetened with saccharin, three or four times daily. Its effect is to reduce the quantity of urine eliminated, as well as the sugar, the latter not only *pari passu*, but absolutely. Phenacetine and exalgine bring about the same results. He advocates the use of saccharin for sweetening purposes, and states that, provided the quantity ingested does not exceed two grains daily, no inconvenience is likely to be caused. Passing on to the dietetic treatment, the author speaks very highly of "soja" bread, the only drawbacks to the use of which are its disagreeable taste and laxative action on the bowels. With references to the use of potatoes, he points out that they contain 17 per cent of glucose, as compared with the 19 and 20 per cent. of best gluten bread; hence, that potatoes are preferable to gluten of bread. He stipulates, however, that the quantity ingested shall not exceed 100 grammes (7 ounces) daily, as otherwise it would do more harm than good. He remarks that milk augments considerably the proportion of sugar in the urine, and the same remark applies to fruits, and especially grapes.

To make up for the loss of carbo-hydrates, fats and viands containing fat are to be commended—caviar, sauerkraut, etc. Alcohol must only be given with caution, and in limited quantities.—*London Medical Recorder*.

The Connection between Diabetes and Graves' Disease.—A. E. Manby (*Brit. Med. Journal*, 1889, Vol I. p. 1052).

Case 1.—A., a retired naval officer, died of diabetes, aged 70, leaving, with other issue, a son, A. A., aged 45, the victim of diabetes, and a daughter, A. F., aged 40, the subject of goitre, exophthalmos, and irregular action of the heart.

Case 2.—B. died of diabetes, said to be caused by a fall on his head, aged 19. Some twenty years later his brother, B. M., aged 50, lost two children with acute diabetes; and a sister, B. F., died, having suffered for several years with exophthalmos, goitre, palpitations, and semi-maniacal mental disturbance, which appeared to alternate in a marked manner with the enlargement of the thyroid gland and the prominence of the eyeballs.

Case 3.—C. A. and C. B., two sisters, died of acute diabetes, aged respectively 9 and 10 years, and fifteen years later a younger sister, aged 23, developed enlargement of the thyroid with exophthalmos and heart symptoms.

Morbid Changes in Diabetes.—Dr. P. Ferraro, who has made several researches on the subject of the changes produced in the different organs of the body by diabetes, has recently published the results of similar investigations in a fresh case, the eighth of the series. The arteries were affected with chronic endarteritis; in the lungs there were morbid changes not due to bacilli; in the stomach and intestines the mucous membrane was atrophied; the pancreas was transformed into a firm, compact mass of a fibrous or cicatricial character; in the parenchyma of the liver and in the spleen pulp there were also signs of atrophy. Here, therefore, as in the other cases examined, the digestive organs were most of them affected to a greater or less extent, while the nervous system was not apparently the subject of any morbid changes. Dr. Ferraro considers the exhaustive study of the morbid histological changes

in diabetes very important, and believes that we shall not arrive at any definite conclusion as to the etiology of this disease until our knowledge of the conditions under which sugar is formed and distributed in the body in a state of health is very much further advanced than it is at present.—*The Lancet*, April 21st, 1889.

Some blood changes met with in Renal Diseases.—By E. Lloyd-Jones (*The Practitioner*, vol. xliii.).—Lloyd-Jones has made some rough observations upon the density of the blood as a whole, without distinguishing between the corpuscles and the plasma. Taking the normal standard in health at from 1058 to 1060, in acute nephritis it was generally reduced, 1052, as the mean of ten cases; in "chronic parenchymatous nephritis" the mean of fifteen cases was 1049; in nine cases of "chronic interstitial nephritis" with gout it was 1051; in twenty-four cases of "chronic interstitial nephritis" without gout it was 1058. He explains these differences by reference to the quantity of urine eliminated, which was normal or below normal except in the last class, where it was excessive.

SURGERY.

BY WILLIAM F. HASLAM, F.R.C.S.

The Treatment of Tubercular Disease in and near Joints. By J. S. M'Ardle, F.R.C.S.I., *The Dublin Journal of Medical Science*, for February and April, 1889.—In this paper Mr. M'Ardle confines his remarks to the treatment of three conditions:—1. Scrofulous tendo-synovitis; 2. Acute and chronic tubercular osteo-myelitis; 3. Circumscribed articular disease.

"The importance of the knowledge gained by early exploratory incision can hardly be exaggerated, when we contrast the results of the present system of treatment with those obtained by the most carefully regulated palliative measures. The tediousness alone by the latter would condemn it; but, add to this the fact that the local trouble is a constant source of danger, since it may

at any time cause a general infection, and who will doubt but that thorough eradication of the diseased centres is the only reliable treatment of the affection."

1.—*Tuberculosis of tendon sheaths*.—Under this heading primary tuberculosis is alone dealt with. Considering the proximity of these sheaths to joints, and the natural tendency of tubercular inflammation to spread, it is a matter of no small moment to completely remove a source of such danger as soon as it is detected. The course of this disease is "that at first slight loss of muscular power and deformity are the only effects, but later we find it travel through connective tissue, ligaments, etc., engaging the synovial membrane of neighbouring joints, and even at times infiltrating subjacent bones, so that ultimately a disease, originating in a tendon sheath, may necessitate a resection of a joint, or even an amputation."

Notes of ten cases are given, the line of treatment being free incision, scraping away of granulative tissue and drainage of the cavity. In one case of old standing disease, Symes' amputation had to be performed. Another patient died of a general tuberculosis two years after a successful operation for tuberculosis of the sheath of the flexor carpi ulnaris. The remaining cases recovered completely.

2. *Tuberculosis of Bone*.—When a tubercular deposit in bone can be recognised, the sooner it is removed the greater is the chance of saving the adjacent joint. Mr. M'Ardle refers to nine cases in which he has treated a local tuberculosis in bone by trephining, scraping, and drainage, and his results are most favourable. Some description is given of the method of applying the trephine to different bones. "The head of the humerus can be reached and readily drained by an incision along the bicipital groove, drawing outward of the deltoid, and slight rotation inwards of the arm. The periosteum is then raised along the outer side of the biceps tendon, avoiding its sheath. The medium-sized trephine, 22 mm. for adults, the smallest one, 8 mm, for children, can be applied so as to pass obliquely from below the greater tuberosity upwards and inwards through the

epiphysary cartilage into the head. This allows (when the arm is placed across the chest) free drainage so long as the patient sits up or lies on the opposite side." For trephining the head and neck of the femur: "the point of application, in the absence of any softening of the bone surface, is, in adults, $1\frac{1}{4}$ cm. below the most prominent part of the great trochanter, and a little below the middle line of the bone; in children, the central point of the trochanter answers. The direction in adults is upwards and inwards towards the middle of Poupart's ligament, inclining the point of the trephine forwards. In children the direction is similar, but care must be taken not to needlessly interfere with the epiphysary cartilage. This can be done by withdrawing the instrument after it has passed through 1 cm. of bone, the inner surface of which should be examined for pus, cheesy deposit, or other evidence of disease. If none shews and there is undoubted femoral disease, the trephine may be reintroduced and a portion of the canallous tissue removed until a clear channel is made reaching the diseased spot." The trephine for the humerus and femur must be a special long-barrelled one.

3.—*Joint Tuberculosis*, where "the local disease engages intra-articular structures, or structures other than bone, so intimately connected with the synovial membrane that extension thereto of disease is likely to take place unless prevented by judicious treatment."—Three cases are reported in which the infra patella bursa was the seat of chronic or tubercular synovitis. These were treated by incision, scraping, and drainage, the result in each case being good. It is pointed out that the usual course of such cases is, "the patient first finds that kneeling, sudden flexion of the leg on the thigh, or any such effort causes pain deeply in the joint. After a little time stiffness and swelling, which will be for the most part due to distension of the synovial membrane, as a result of a subacute synovitis arising from the presence of the tubercular lesion in the infra-patellar pad. This synovitis is the trouble that causes the patient to seek surgical advice, and for the synovitis he is treated. Meanwhile the original disease spreads in all directions, extending into the synovial

membrane, which becomes thickened; the fungus growths invade the ligaments, and destruction of the joint is the result."

By an early operation the "synovitis is cured, extension of the disease prevented, and a sound movable limb produced." Mr. McArdle lays down certain rules for the performance of these operations:—

1. "Make the incision or incisions in such position that arthrectomy can be carried out if necessary, or even complete resection if required."

2. "The opening should be sufficiently free to allow a complete removal of diseased structures."

3. "The incision should be in proper position to allow of free drainage."

Cases of Intermuscular Synovial Cysts, with Remarks on their Mode of Origin.—By D'Arcey Power, F.R.C.S. (*Illustrated Medical News*, Feb. 16th, 1889.)—In this paper Mr. D'Arcey Power gives notes of nine cases of intermuscular synovial cysts, all of which, with one exception, had been treated in the wards of St. Bartholomew's Hospital. The specimens from which the drawings have been taken are in the museum attached to the Medical School of the hospital. He points out that these cysts "occur in cases of tubercular disease, in osteo-arthritis, and in that variety of osteo-arthritis associated with locomotor ataxy which is at present called Charcot's disease. They are remarkable because, although they originate in all cases quite close to the diseased joint, or are directly derived from it, they track for considerable distances along the intermuscular planes, and only become superficial at a distance from the articulation. They appear to be most frequent in the knee, shoulder, hip, elbow, and perhaps the wrist." Mr. D'Arcey Power thinks that "the cyst is the result of some constitutional affection, leading to that low vitality of the tissues which causes disease of the joint as soon as an exciting cause presents itself. The predisposing cause is present, however, in a certain number of cases before the excitant appears, and leads to a passive effusion, either into the joint, as in cases of hydrarthrosis, or into the bursæ, as in

cases of synovial cysts. In the same manner hydrocele may occur in debilitated persons, and testicular hydrocele in cases of disease of the testis, whilst passive effusions and oedema are of common occurrence in the anæmic." He regards tubercle as the most frequent cause of the affection, and he points out that bursal enlargements are met with in the condition known as "senile struma." As the result of his own experience he is "inclined to think that the connection between osteo-arthritis and the formation of such cysts is accidental rather than causal." Tapping these cysts is deprecated as being likely to be followed by the conversion of the synovial contents of the cyst into pus.

On Some of the Deformities of the Tarsus in Congenital Equino-Varus, with a description of the external lateral-traction apparatus.—By Newton M. Schaffer, M.D., of New York (*Medical Record*, April 27th, 1889).—After discussing the pathological anatomy of equino-varus, the author concludes by saying that "we may assume the following as a basis to treat the condition under consideration: 1. That there is a compound deformity in equino-varus due to a rotation of all the bones of the tarsus upon three distinct axes, viz., transverse, antero-posterior, and vertical. 2. That this compound deformity is due to a loss of relation between muscular and osseous growth—not to muscular contraction or contracture, as has generally been supposed. 3. That the principal obstacles to a reduction of the deformity are (1) the position acquired by the astragalus (with or without an intrinsic deformity of the neck) and (2) the ligamentous shortening. 4. That these difficulties are much increased by the progressive ligamentous and osseous changes that occur as the direct result of prolonged malposition. 5. That the deformities of the medio-tarsal joint are secondary in importance to those which occur at the astragalus." Dr. Schaffer holds that "while much ingenuity has been expended in devising and in perfecting the various cutting methods of treatment, the apparently simple, but really more difficult, mechanical methods which promise so much better results have been in many cases neglected." He figures and describes an ingenious apparatus for correcting the deformity.

Anchyllosis of the Knee-Joint as a remedy for the "dangle-leg," due to infantile paralysis affecting the entire limb.—By Stephen Smith, M.D., of New York (*Medical Record*, April 6th, 1889).—In this paper Dr. Smith draws attention to the desirability of undertaking some operative procedure for limbs rendered useless by infantile paralysis; a case is quoted in which he excised the knee with a most satisfactory result. In 1878 a boy, ten years of age, came under his care who had walked with a crutch since he was three years old, his left leg having been rendered useless by infantile paralysis. There was flexion at the knee to about a right angle, due to paralysis of the quadriceps extensor, which had undergone almost complete atrophy. The hamstrings had contracted and maintained the flexion. The actual length of the limb was nearly as great as the sound one. Division of the flexor tendons was effected with a view of straightening the leg at the knee, but owing to the tension of the remaining structures in the popliteal space this could not be done. In a few weeks time excision of the knee was performed; the joint was opened by dividing the patella, the articular surfaces were found healthy. Sufficient bone was removed from the femur to enable the tibia to be brought into a straight line with it, the tibial articular cartilage and the synovial membrane being left undisturbed. The femur and tibia were fixed by two wire sutures, and one was inserted into the halves of the patella. The wound healed without suppuration, and the patient was about on crutches at the end of four weeks, at which time there was considerable movement of the joint. In eight weeks time he could bear some weight on the limb, and in four months the union, though fibrous, was so firm that no motion could be detected. By this time "he had acquired an elasticity in his movements which so concealed the imperfection of the leg due to the stiffening of the knee, that it was difficult to detect his infirmity." Dr. Smith has now operated on a number of similar cases and has always obtained good results. The cases selected are those in which the atrophied limb is only slightly shortened. In some, sections have been removed from both bones, union in these cases has been quicker, but there has been greater shortening.

Obturator Dislocation of the Hip Joint, with Shortening.—Under the care of Mr. Rivington (*Lancet*, May 25th, 1889).—The patient, a well-developed muscular man weighing 12 stone, while stepping from one barge to another, slipped and fell between the two boats in such a manner that almost the entire weight of his body was supported by the left leg. He was, in fact, suspended over the edge of the barge by the left leg, the inside of the knee resting on the gunwale, and the thigh being in a position of fixed abduction. On examination, the thigh was found much abducted, the knee bent and incapable of extension. In the erect position the left leg was advanced and the body bent forward. This bending of the body enabled the patient to bring the toes to the ground, but he could not bear any weight upon them. There was shortening to the extent of about a quarter of an inch. There was a marked depression over the situation of the great trochanter, and on the inner side of the thigh the adductors were felt as a tense band. Under an anæsthetic, reduction was easily effected by manipulation, viz., flexion, adduction, rotation inwards, and extension. Mr. Rivington is of opinion that there is no real lengthening in obturator dislocation, but that it is only apparent. The text books lay more or less stress upon the fact that in these cases there is real lengthening. This "traditional two inches" he regards "as an instance of defective observation," and he quotes cases in support of this idea.

A Case of Dislocation of the Wrist Backwards.—Under the care of Mr. Sherburn, of the Hull Royal Infirmary (*Lancet*, May 18th, 1889).—The patient, a boy aged 14, had fallen twenty feet from a ladder on to the ground. On examination, "the left hand was markedly displaced backwards from the plane of the forearm, and was somewhat abducted. The fingers were partially flexed in all their joints. At the back of the wrist was the rounded prominence of the displaced carpus. On the anterior aspect the lower extremities of the radius and ulna were easily recognised, as were also the styloid processes of these bones. The relations of the parts were easily made out,

as at the time of examination no swelling had taken place. The following measurements were taken, and found to be the same in both arms, viz., (1) from the tip of the olecranon to the styloid process of the ulna, and (2) from the head of the radius to its styloid process." Reduction was effected by extending the wrist and pulling in a direction which formed an angle of nearly 90° with the forearm, the line of traction being gradually altered until it was in the same line as the long axis of the forearm. The displaced carpus was at the same time pressed downwards and forwards.

GYNÆCOLOGY.

BY E. TEICHELMANN, M.R.C.S.

Gonorrhœal Salpingitis.—Schmitt, Wurzburg (*Archiv. für Gynäkologie*, Vol. 35, part 1).—It is Nöggerath's undoubted merit to have drawn attention (by his paper on "Latent Gonorrhœa in Women," published in 1872, in Bonn) to the great importance of gonorrhœa in women. Until then one had no idea, much less an accurate knowledge of how exceedingly often gonorrhœa spreads from the uterus into the Fallopian tubes, and that gonorrhœa held such a prominent place in the ætiology of many diseases of women.

Although many disagree with Nöggerath's ideas and statements in regard to "latent gonorrhœa," still what he says of the importance of acute, and even more of chronic gonorrhœa, as a cause of tubal diseases and pelvic peritonitis, is accepted and confirmed by many investigators.

Nöggerath distinguishes three kinds of pelvic peritonitis—1, Acute Perimetritis (with or without parametritis); 2, Recurrent Perimetritis in connection with gonorrhœal salpingitis; and 3, Chronic Perimetritis. Gonorrhœa he takes to be the origin and cause of these three forms of perimetritis, particularly of the recurrent form. When once the tubes are infected they form a focus

from whence recurrent exacerbations of the pelvic condition result; this may go on during the life of the patient. According to him gonorrhœal salpingitis is an exceedingly frequent, almost constant complication of gonorrhœa.

Nöggerath has met with much opposition; but the majority of gynecologists of recent times are agreed that his views are in the main right. Säger calculates that one-ninth of all gynecological diseases have a gonorrhœal origin, and that of all gonorrhœally infected women one-half suffer as a consequence from inflammation of the uterine appendages.

Säger does not look upon gonorrhœa, during the puerperal period or at other times, as an exceedingly fatal condition compared with the real (?) puerperal infections; more particularly for the reason that general peritonitis never (?) follows gonorrhœal perimetritis. He explains a case of death after escape of pus from the tubes into the peritoneum as due to shock, septicæmia, or pyæmia. But there can be no doubt that a large number of so-called puerperal fever cases, which commence very acutely, rapidly ameliorate, and become very chronic, are undoubtedly due to gonorrhœal infection. In some cases the infection occurs late, two or three weeks after labour, in others it is due to a gonorrhœa existing before pregnancy.

Kroner's statement that the most certain proof of the gonorrhœal nature of the tubal inflammation consists in the demonstration of gonococci in the pus, has not so much importance attached to it by Säger.

At a meeting of German Scientists in Berlin, 1886, Gusserow reported 14 cases of removal of the Fallopian tubes. In all these cases perimetritis existed, and Gusserow ascribed this condition as due, in the majority if not all of the cases, to gonorrhœal infection; which first produced a pyosalpinx and then spread to the peritoneal surfaces of the appendages.

Martin at the same meeting recorded 287 cases of salpingitis; half of these he ascribed as due to a spreading catarrhal endometritis; the rest he distributes in the following way—one half are puerperal, the other half are divided into gonorrhœal and tubercular in the proportion of six to one.

Although many investigators have made careful examinations of the tubal contents and the perimetric exudations for gonococci, it is surprising how few have been successful in finding them. Nor have they ever been found in the tissues of sections of the tubal mucous membrane.

There are difficulties in the way of the spread of the infection over a continuous mucous membrane in the shape of anatomically narrow places, such as the internal os uteri and the ostium internum of the Fallopian tube, otherwise the uterus and tubes would be more often involved in the process than at present appears to be the case. When these difficulties are overcome by favouring causes, such as excesses, venereal or otherwise, or mechanically by vaginal injections, the inflammatory condition spreads in exactly the same manner as in the first affected mucous membrane. The earlier views on the spread of the inflammation differ from the later, in that what was then taken to be simply a catarrhal inflammation is now ascribed to the action of specific micro-organisms.

The changes in the tubal mucous membrane due to gonorrhœa have not been sufficiently studied, in spite of the numerous opportunities given by the material from frequent operations. Orthmann has recently investigated the matter carefully. His results and those obtained by Schmitt agree in the main, varying naturally according to the length of time the disease had existed, and also as a result of minor differences, such as the degree of distension of the tubes, etc. The slighter changes consisted in the hypertrophy of the mucous membrane, the folds especially becoming elongated, and in many cases even dendritic, so that the lumen of the tube was to a great extent occluded by these folds, only a slight amount of sero-purulent fluid being found in the cavity. The epithelial layer was destroyed on the tips of these folds; but in the recesses between the folds it was intact, the ciliæ even being easily demonstrated. Beneath the epithelial layer the mucous membrane was densely infiltrated with small round cells, this infiltration spreading to the inner parts of the muscular tunic and separating its fasciculi. The vessels

of the muscular coat were enlarged and congested. In parts where there was a certain amount of repair, these hypertrophied folds of mucous membrane had grown together at their apices, thus forming elongated spaces. In these spaces lesser cysts had formed in like manner. On section, these had the appearance of small cysts and gland spaces; and it is no doubt this that has given rise to the idea expressed by some writers, that the Fallopian mucous membrane contained glands.

In the more advanced cases, where the tubes were more dilated by pus, the mucous folds were shortened and thickened, the destruction of the epithelial layer being much more extensive; but even in the worst cases there remained some epithelium in the recesses between the folds. The small celled infiltration separating the muscle fasciculi throughout the whole thickness of the muscular layer had developed more or less into fibrous tissue, so that this coat appeared to be three to four and more times thicker than normal. This thickening was, in the majority of cases, purely fibrous; but in some there was also a true hypertrophy of muscle fibres. In some cases there were small abscesses near the mucous surfaces, due to necrotic changes in the granulation tissue which had displaced the mucous membrane.

The course of gonorrhœa in the tubes is thus much the same as in other mucous membranes. There is one difference however, instead of the pus escaping, it to a great extent collects in and distends the tubes. This is due to the fact that the abdominal end at an early stage of the inflammation becomes closed and adherent to the ovary or other pelvic organs; the ostium uterinum, which is to begin with an excessively narrow opening, becomes further narrowed by the swelling of the mucous membrane; and thus a pyo-salpinx is formed. If the ostium abdominale is not completely or not firmly closed, an effort on the part of the patient, a push or a fall, may cause pus to escape into the peritoneal cavity, and produce the serious complications of gonorrhœa.

Schmitt concludes his paper by some clinical remarks on

gonorrhœa and its frequently accompanying perimetritis. He finds that of 116 cases of gonorrhœa in women, 27 had clinical symptoms of pelvic peritonitis, he gives a brief history of each of these 27 cases, to which we refer the reader. He puts the percentage of implication of the tubes in the process much lower than this, as the perimetritis in the cases referred to, may well have had other causes in many of the cases. It is interesting to note the period at which the perimetritis followed the gonorrhœal infection, although this is of course difficult to estimate very correctly.

According to Bernutz and Goupil, the majority of the cases occurred between the 15th and 30th day after infection, some as early as the 8th, some as late as the 60th day. Some of Schmitt's cases occurred as late as the 5th month, the average being about the same as those of Bernutz and Goupil.

There are two ways in which gonorrhœal infection of the tubes may produce perimetritis. First by direct extension of the inflammation through the wall of the tube, and secondly by escape of pus into the pelvis. Schmitt thinks that a simple inflammation is produced on the peritoneal surface and that the gonococci are powerless to produce any specific effect, such as they do on the tubal mucous surface. About this there can be no doubt, as gonorrhœal pus frequently escapes into the peritoneum during an operation for removal of the tubes without producing any peritonitis, and it cannot be supposed that every particle of pus is removed by an ordinary washing out.

ANATOMY.

BY BERTRAM C. A. WINDLE, M.A., M.D.
PROFESSOR OF ANATOMY, QUEEN'S COLLEGE

Nervous System.—An idéal method of mapping out the brain convolutions upon the scalp is probably yet to be devised, but the numerous researches made in that direction give grounds for hope that we shall not long be without it. Messrs. Anderson and Makins * are the most recent workers in this field. Their observations and results go to strengthen the opinion that fixed rules for mapping out fissures are impossible, owing to the great varieties existing not only in brains, but also in the positions of the fixed bony points generally employed as landmarks. Nevertheless, the suggestions and rules given in the paper are of much practical value to the surgeon. Prof. Cunningham, of Dublin, whose beautiful series of brain models has attracted so much well-deserved admiration, is known to be making some observations on this subject. As regards the growth of the brain, he notes† that the temporo-sphenoidal lobe is placed more horizontally in the child than in the adult, its tip in the latter being directed upwards and inwards, so that the long axis has a curved direction. The vertical measurement of the same lobe, in relation to that portion of the cerebrum which is above the Sylvian fissure, diminishes steadily and uniformly in the course of the growth of the child. Prof. Hamilton's views on the corpus callosum have already been alluded to in a report in this journal. A recent paper‡ contains a further contribution to the subject, with remarks on other fibres of the brain and on the optic thalamus, which last he thinks is concerned in the education of the brain through the optic nerves and corpus callosum. His views have been opposed by Bruce|| in a long and exhaustive paper on absence of the corpus callosum, in which he shews

* *Journal of Anat. and Phys.*, vol. xxiii., p. 455.

† *Dub. Jour. of Med. Sci.*, cc., ser. iii., p. 151.

‡ *Proc. Royal Soc. Edin.*, vol. xiv., p. 519.

|| *Lab. Reports of Royal Coll. Phys. Edin.*, 1889.

that this malformation is not necessarily accompanied by imbecility or even by other mental disturbances, and that the facts learnt from studies of such cases are inconsistent with Hamilton's views. Before leaving the brain it may be mentioned that Dana* has contributed a paper containing his researches on the cortical localisation of the cutaneous sensations. Amongst other practical points he notes that the cortical areas for touch, pain, and probably temperature are identical with the motor areas. The positions of different cutaneous regions are, for the most part, the same as those of the corresponding motor segments, and the areas overlap and diffuse into each other. Dr. Reid† has published the result of his dissections, made with a view of determining the exact position in the adult of the superficial origin of the spinal nerves from the cord in relation to the surface of the body. His tables and illustrations will be of interest to surgeons and physicians, though he is obliged to conclude that the superficial origin of any individual spinal nerve has no fixed and definite relation to the apex of one, or the apices of two spinous processes, or the space intervening between two, as might be gathered from the tables of Nuhn and Jadelot, but that its position varies considerably. As regards peripheral nerves, papers relating to their variations have been published by Brookes‡ and Hartmann.§ The former shews that the areas of cutaneous distribution of the nerves on the back of the hand are very variable. The latter points out that the course of nerve fibres in general is by no means constant, but that instead of running in their own, they may pass in a neighbouring trunk, thus producing a kind of elliptical arrangement. By this means, he thinks, anomalous symptoms associated with the peripheral nerves may often be explained.

Heart.—Professor Hamilton§ gives the following as the average weights and measurements of the normal heart. Weights

* *Jour. of Nervous and Mental Disease*, Oct., 1888.

† *Jour. of Anat. and Phys.*, vol. xxiii., p. 341.

‡ *Internat. Monatssch. f. Anat. u. Phys.*, Bd. v., Hft. 8.

§ *Bull. de la Soc. Anat. de Paris*, 1888, p. 151.

§ *Journ. of Anat. and Phys.*, vol. xxiii., p. 40.

(average), M. 12-13 oz., F. 10-11 oz.; range, M. 10-16 oz., F. 7-15½ oz.

DIAMETERS OF ORIFICES.

	Greatest.		Least.		Average.	
	M.	F.	M.	F.	M.	F.
	In.	In.	In.	In.	In.	In.
Aortic . .	1'3	1'0	. .	'9 '8	. .	1'0 '9
Mitral . .	1'8	1'5	. .	1'1 1'0	. .	1'4 1'2
Pulmonary .	1'5	1'3	. .	1'0 1'0	. .	1'2 1'1
Tricuspid .	2'2	1'7	. .	1'3 1'4	. .	1'8 1'5

CAVITIES AND WALLS—MEASUREMENTS.

Left Ventricle, 3 in. to 3¼ in. Wall, ¼ in. at thinnest to ½ in. at thickest.

Right Ventricle, 3½ in. to 3¾ in. Wall, ½ in. all over.

*Brown has made investigations into the occurrence of the moderator band of King in the right ventricle. In 100 hearts examined he found it always present, though of very variable size, and in 15 cases so down in its septal attachment as to resemble an ordinary trabecula. He believes that it acts indirectly as a "moderator" through the anterior papillary muscle. A well-formed moderator band, he thinks, serves by its contraction to direct the blood stream towards the pulmonary orifice. In many cases of dilated right heart, where the initial stage alone had been reached, he found that the dilatation existed only posterior to the muscle and its accessory band.

Abdomen.—Symington has published several papers on the pelvis and its contained viscera. The first† deals with the rectum and anus, in relation with which the writer expresses the opinion that the third part of the rectum, commonly so called, should be described with the anus as the anal canal. The levatores ani assist in closing this portion of the tube. A second paper‡ deals with the bulbo-cavernosi muscles in women, a subject of some interest in relation to their bearing upon the production of vaginismus. His observations were made on the pelvis of a female aged 50. Each muscle was about 1'5 m.m. in

* *Journ. of Anat. and Phys.*, vol. xxiii., p. 250.

† *Journ. of Anat. and Phys.*, vol. xxiii., p. 106.

‡ *Proc. Anat. Soc. Gt. Brit. and Ireland (Journ. Anat. and Phys.)* vol. xxiii., p. 2.

thickness, and could not have any appreciable effect in closing the ostium vaginæ. I may here note that I have, during this session, had the opportunity of dissecting these muscles in a young female subject (æt. 22) apparently a virgin and certainly nulliparous. Here, although atrophy was out of the question, the muscles were similarly insignificant in size and utterly incompetent to produce the effects ascribed to them.

A third paper* on the normal anatomy of the female pelvic floor is too lengthy for more than a passing mention here, but will well repay the reader who consults it.

Bodenhamer† calls attention to the small sacculi with upward directed mouths situated around the anus, between the mucous columns. When relaxed, small foreign bodies may lodge in them and lead to troublesome irritation if not to the formation of an ulcer.

Griffiths‡ has a contribution on the Anatomy of the Prostate. The third lobe is often well developed at the time of birth, originates independently of the others and has its own ducts.

Takahasii§ in a paper on the position of the foetal and infantile bladder states that the viscus is relatively higher in the new-born child than in earlier foetuses. He accounts for its descent 1, by its intrinsic weight; 2, by the enlargement of the pelvis. In a paper on the normal position of the female pelvic organs Bardeleben§ states that when the bladder is empty, or slightly full, the uterus is normally anteverted, or in children and girls anteflexed. In fuller states of the bladder, it is pushed upwards and backwards, and so may normally lie behind the axis of the pelvis. It generally lies asymmetrically and on the right side. The os externum lies at the level of a line drawn from the upper border of the symphysis pubis to the lower end of the sacrum.

Bryant¶ states with regard to the valves in the intestinal veins,

* *Proc. Obst. Soc. Edin.*, Jan., 1889.

† *New York Med. Rec.*, May 26, 1888.

‡ *Journ. of Anat. and Phys.*, vol. xxiii., p. 374.

§ *Arch. f. Anat. u. Entwickl.*, 1888. Hft. 1, S. 35.

§ *Anat. Anzeiger. Jahrg.* iii., p. 535.

¶ *Boston Med. and Surg. Journ.*, vol. cxix., p. 400.

that at birth they are quite numerous and especially on the large intestine. In a few months they mostly disappear or become incompetent, only a few remaining in the adult, and those chiefly on the jejunum.

Limbs.—Pye* in a paper on the growth of the bones of the lower extremities states that during the second year the thighs grow at first at a rate of a little more than $\frac{1}{4}$ of an inch, and the legs a little less than the same amount each month. The rates gradually diminish until at the end of the year they are $\frac{1}{10}$ and a little more than $\frac{1}{8}$ respectively. During the third year the monthly rate is a little more, and a little less for thigh and leg bone, $\frac{1}{8}$ inch and so on, in diminishing rates until the eighth year, when the monthly ratios have sunk to $\frac{1}{16}$ and $\frac{1}{10}$ inch.

Two papers interesting to orthopædic surgeons have been published by Arbuthnot Lane† on the mechanism of the Human Foot, and by Bishop‡ on the Medio-tarsal Joint from an Orthopædic Point of View.

REVIEWS.

THE CAUSATION OF DISEASE.||

THIS work is an attempt to trace out the ultimate causes of disease in general. The author professes to have thought out the subject independently for himself from beginning to end. While there is nothing that is new, striking, or original in the book, yet we do not fail to admire the philosophic spirit with which the writer has investigated some of the gravest problems dealing with the phenomena of life and disease. Moreover, the

* *Journ. of Anat. and Phys.*, vol. xxiii., p. 116.

† *Guy's Hosp. Reps.*, vol. xlv., p. 252.

‡ *Medical Chronicle*, Jan. 1889, p. 285.

|| The Causation of Disease: an exposition of the ultimate factors which induce it. By Henry Campbell, M.D., B.S. (Lond.). London: H. and K. Lewis. 1889.

pleasant discursive style with which he treats his subject contributes not a little to attract the reader's attention. He specially considers two aspects of causation in general—(1) cell or tissue structure; (2) cell environment. Heredity, evolution, natural selection, sexual selection, and most of the much discussed problems of nineteenth century biologists are cited by Dr. Campbell according as his line of thought from time to time suggests some special reference. This kind of material makes an interesting essay, but we doubt much if the pathologist will derive any real information or food for reflection. George Eliot, Charles Dickens, Carlyle, Herbert Spencer, and numerous other authors are quoted with much appositeness to support the writer's views. We may be allowed to quote the doctrine of sexual heredity as enunciated by Dr. Campbell. "The more exclusively a specific E (Environment) acts upon one sex, the greater the number of generations acted upon, the more apt is the resulting variation to pick out that one sex in the offspring. Moreover, a character is more apt to be transmitted along one sex when it is acquired during the period of sexual activity, and it is probably more apt to attach itself to the male than to the female sex. Nevertheless in all cases there is a tendency for the opposite sex to be affected." Dr. Campbell has come to the conclusion, on *a priori* grounds that malignant growths are parasitic in origin. In this connection we find an amount of loose reasoning and rash speculation which is characteristic of those pathologists who prefer the arm-chair to the laboratory. For example, p. 359, we read "The granulonata are admitted to be caused by parasites, and why not the malignant growths also?" Why not! That is precisely the *questio vexata*. Again, "the simplest way of explaining infectiousness is to assume the existence of a parasite, for this gives us an abiding mal-environment, and hence a continuation of the morbid process." Arguments such as these, appealing as they do to analogy rather than to actual observation and experiment, will fail to convince practical minds.

THE MECHANISM OF THE CIRCULATION THROUGH ORGANICALLY DISEASED HEARTS.*

IN this thoughtful and suggestive book of 64 pages we have a valuable contribution to the literature of the above subject ; for although the facts brought forward in it are necessarily more or less familiar, the way in which they are dealt with will be novel to many, and cannot fail to give to anyone who takes the trouble to follow the line of thought here laid before us a more thorough grasp of the relationship between cause and effect in diseases of the heart. This book, as its name implies, deals with the relationships which exist between the amounts of blood entering and leaving the several chambers of the heart under the varying conditions of health and disease, and the consequent alterations in the size of the chambers themselves ; but it does not touch at all on the closely allied subject of the causation of cardiac murmurs.

The work bears throughout the stamp of a logical mind well trained in the consideration of physical problems, and is the outcome of matured thought and patient observation ; on this very account it does not afford easy reading for a mind not so trained, but requires careful study. It will, however, well repay anyone who so reads it by giving a more exact knowledge of the *forces* which lead to dilatation and hypertrophy of the diseased organ and the way in which they act, thus leading to a clearer view of the morbid condition and of the direction which remedial efforts ought to take.

In the preliminary discussion of the mechanism of the normal circulation and its relation to the function of respiration, the author dwells upon the importance in all cases of heart disease of maintaining the blood in the highest possible state of efficiency with regard to its power of carrying oxygen, a need,

* The Mechanism of the Circulation of the Blood through Organically Diseased Hearts. By Herbert Davies, M.D., F.R.C.P. Edited by Arthur T. Davies, B.A., M.B. Cantab. London : H. K. Lewis. 1889

although long since recognised in theory, that is still too frequently neglected in practice.

In one or two places the reasoning may perhaps be considered as being rather needlessly complicated and difficult to follow, on account of a strict adherence to a logical mode of proof instead of the acceptance of an apparent fact as self-evident ; but this does not detract from the general merit of the work, and need not diminish its general usefulness to the practitioner of medicine.

ANNUAL OF THE UNIVERSAL MEDICAL SCIENCES.*

OF the various Year-books, Annuals, &c., this is the most pretending, and unquestionably by far the most elaborately compiled. It is said to be the work of seventy Associate Editors and of "over two hundred corresponding editors, collaborators and correspondents," and some idea may be formed of the magnitude of their task by reference to the index which shews that seven hundred and fifty-six periodicals, and two hundred and thirty-four monographs, &c., have been consulted. Moreover, the abstracts given are very well done, sufficiently full, and illustrated by reproductions of the original illustrations wherever required.

As the type is of good size this work reaches the encyclopædic length of five royal octavo volumes, each containing about four hundred pages ; and includes sections upon every department of medical study. We have gone over several of these and are satisfied that they give a very fair summary of the principal contributions to their several subjects during the year 1888, and that the work of selection has been done with judgment and care. Anyone who chooses to furnish his book shelves with this

* Annual of the Universal Medical Sciences. Edited by Charles E. Sajona. Philadelphia: F. A. Davis. 1889.

Annual will have a more complete epitome of the progress of medical science than could be otherwise afforded by a large library, while he will have it well arranged, admirably indexed, in his own language, printed in a very legible type and illustrated by plates that compare very favourably with the originals from which they are copied.

The publishers of this annual deserve great credit for the liberal spirit they have shewn in undertaking a work which if it is maintained must prove of immense service to the medical profession.

ESSENTIALS OF PHYSICAL DIAGNOSIS OF THE CHEST AND ABDOMEN.*

THIS little manual is simple and concise and will prove a useful aid to the student when he is making himself acquainted with the principles of physical diagnosis. The book is evidently the production of one who has had considerable experience in managing tutorial classes. It is practical in its aim, and theoretical discussion as a rule is avoided. There are many references to the teaching of the Glasgow school and more especially to that of Dr. Gairdner. In few respects however, does the author disagree with the principles of auscultation and percussion as compiled by Dr. Gee in his well-known manual. Dr. Anderson objects to the "cracked-pot" sound being compared to that produced by striking the closed hands on the knee. He thinks the true *bruit de pot fêlé* is less hissing in quality, the essential element according to him being the dull tympanitic note such as is heard at a region above the dulness of a pleural effusion. For our own part we believe that the "high pitched tympany," which was first demonstrated by Skoda as a sign to be elicited over the upper part of a consolidated or compressed lung,

* Essentials of Physical Diagnosis of the Chest and Abdomen. By J. Wallace Anderson, M.D. Glasgow : James Maclehouse and Sons. 1889.

is rather different in character from the true "cracked-pot" sound of Laennec. On p. 97 we should really read *systolic* for *diastolic*, for it is the systolic sound or murmur which is best heard at the aortic cartilage. Under abdominal auscultation no reference is made to the uterine bruit, funic souffle, or foetal heart sounds. Indeed, sufficient attention has not been paid to the methods of differential diagnosis of abdominal enlargements. The appendix contains an outline to assist the junior student in reporting cases. The hints for case taking in diseases of the nervous system might well be extended.

COSMIC EVOLUTION.*

THIS little book is an essay having for its object the explanation of a theory by which the process of evolution may be extended to the changes that have taken place from the earliest times. The author contends that there is good reason to suspect that the so-called chemical elements are only elemental to such environments as we have been able to devise, but that in an earlier stage of the universe they were formed by the chemical combination of substances at very high temperatures. He suggests that in the primordial fiery vibrating vapour local losses of heat took place, possibly by its being converted into motion, this change of temperature being followed by chemical action, and this would be repeated over and over again, those substances which proved the most inert withstanding the longest the forces of chemical decomposition. The elements are the survivors of this struggle. Only as the intensity of this chemical activity diminished could complex substances have a chance of existing.

Whether such speculations, unsupported by any new facts, are worth publishing may be doubted; but the argument is clearly thought out, and is expressed in intelligible language.

* Cosmic Evolution : Being Speculations on the Origin of our Environments. By E. A. Ridsdale, Associate of the Royal School of Mines, London : H. K. Lewis. 1889.

A SURGICAL HANDBOOK.*

THIS is the "Minor Surgery and Bandaging" of other authors under a new name, and as both those responsible for the book are Assistant Surgeons to the Royal Infirmary, Edinburgh, we may assume that, in addition to the general information contained, there are some details more or less characteristic of the great northern school. It is impossible to offer minute criticism of a work of this kind, as there are extremely unlikely to be any gross errors, while there must be dogmatic assertion on points where differences of opinion exist amongst competent surgeons. On the whole we can say that this Handbook is equal to its fellows, that illustrations are used most liberally and that it is presented in an attractive binding and printing. Perhaps if it has a fault it is that too much has been attempted, as instances of which we may mention chapters on massage, plaster-casting, examination of the urine, and *post-mortem* examination.

 ERNST'S GUIDE TO THE SELECTION OF
ORTHOPÆDIC APPARATUS.†

A NEW edition of this useful book is now published containing a very complete description of the apparatus used by orthopædic surgeons together with very good illustrations of the same, in number over two hundred. Those not familiar with the various instruments will find this "Guide" of much assistance. Mr. Ernst is careful as a rule not to offer an opinion which trenches on the domain of the surgeon, but he makes one exception to this, and a rather unfortunate one, on page 29, when he says "that there exists a necessity for some support to the spine in all cases of spinal curvature."

* A Surgical Handbook. By Francis M. Caird, F.R.C.S. Ed., and Charles W. Cathcart, F.R.C.S. London: Charles Griffin and Co.

† Ernst's Guide to the selection of Orthopædic Apparatus. London: Sprague and Co.

DEFECTS IN PLUMBING AND DRAINAGE WORK.*

SOME few years ago a Society was founded in New York with the object of exterminating the plumber, but we do not know that it has succeeded. At any rate in England we still suffer from the race, and Mr. Vacher, who is so well known as one of the best medical officers of health in the country, has done good service by publishing this account of plumbing defects which have come under his observation, as a warning to householders, medical officers of health, and sanitary inspectors, of what they may expect, and to plumbers of the need there is for better training in their trade and for more efficient supervision of their workmen.

It should be carefully read by all householders and especially by all who have the administration of large establishments with numerous inmates, public institutions, &c.

STRATHPEFFER SPA.†

THIS handsome little volume gives an excellent account of Strathpeffer, the Harrogate of Scotland. The waters are cold sulphuretted; the season is said to be from May to October; and to those who like the Highlands of Scotland—and who does not?—Strathpeffer may be recommended as likely to do all that Harrogate does for struma, skin diseases, gout, rheumatism, etc.

* Defects in Plumbing and Drainage Work, described by Francis Vacher. John Haywood, Manchester and London. 1889.

† Strathpeffer Spa: Its Climate and Waters. By Fortescue Fox, M.D. Lond. London: H. K. Lewis. 1889.

A GUIDE TO THE INSTRUMENTS AND APPLIANCES REQUIRED IN VARIOUS OPERATIONS.*

MOST surgeons have at times felt anxiety lest they should forget some instrument likely to be needed in an operation away from home ; and all are familiar with the tradition of some celebrated operator who omitted to take a saw with him when he was going to amputate through the thigh. Mr. Robson's little book should obviate any such mistakes, as it contains lists of instruments for practically all operations ; though he acknowledges that some of the lists will need modification to suit the requirements of different surgeons.

House-surgeons, whose business it is to lay out the things necessary for an operation, will also find this "Guide" of much use.

AMERICAN RESORTS.†

THIS work is a sort of medical guide book to the United States of America, "intended for invalids and those who desire to preserve good health in a suitable climate." It is well written, furnished with a good map, and supplies a great deal of detailed information about the various health resorts which no doubt will prove very useful to those practising medicine in the country it describes.

* A Guide to the Instruments and Appliances Required in Various Operations. By A. W. Mayo Robson, F.R.C.S. London : J. and A. Churchill.

† American Resorts : With Notes upon their Climate. By Bushrod W. James, A.M., M.D. Philadelphia and London : F. A. Davis. 1889.

Miscellany.

THE MICROBE OF PHTHISIS IN THE EIGHTEENTH CENTURY.

Mr. T. Law Webb, of Ironbridge, sends us the following note:—"In an old work by Benjamin Martin, M.D., published in 1720, entitled 'A new Theory of Consumptions,' the author thus prophesies the tubercle bacillus, and foreshadows the modern theories as to the pathology of Phthisis and its communicability." He says, (p. 51)—

"The *original and essential Cause* then, which some content themselves to call a vicious Disposition of the Juices, others a salt Acrimony, others a strange Ferment, others a malignant Humour (all which seem to me dark and unintelligible) may possibly be some certain Species of Animalcula or wonderfully minute living Creatures, that, by their peculiar Shape, or disagreeable Parts, are inimicable to our Nature; but however capable of subsisting in our Juices and Vessels, and which being drove to the Lungs by the circulation of the Blood, or else generated there from their proper Ova or Eggs, with which the Juices may abound, or which possibly being carried about by the Air, may be immediately convey'd to the Lungs by that we draw in, and being there deposited, as in a proper *Nidus* or Nest, and being produced into Life, coming to Perfection, or increasing in Bigness, may by their spontaneous Motion, and injurious Parts, stimulating, and perhaps wounding or gnawing the tender Vessels of the Lungs, cause all the Obstruction, Inflammation, Exulceration, and all other the *Phænomena* and deplorable Symptoms of this Disease."

"It seems probable that the Animalcula or their Seed, which we have suppos'd to be the Essential Cause of a *Phthisis* or Consumption of the Lungs, are for the most part either convey'd from Parents to their Offspring Hereditarily, or communicated immediately from distemper'd Persons to sound Ones who are very conversant with them.

"So that it is very likely, that by an habitual lying in the same Bed with a Consumptive Patient, constantly Eating and Drinking with him, or by very frequently conversing so nearly, as to draw in part of the Breath he emits from his Lungs, a Consumption may be caught by a sound Person; for it may be reasonable to suppose that if the Blood and Juices of such distemper'd People, be charg'd with vast Quantities of *Animalcula*, as I have conjectur'd, then their profuse Sweats, and their Breath also, may be likewise charg'd with them, or their *Ova* or Eggs, which by that means may possibly be convey'd into the Bodies of those who lie, or are most conversant with them.

"It may here probably be objected that if this is so, few that come near a Consumptive Person would escape that Distemper; but in Answer to this I imagine that *slightly* conversing with Consumptive Patients, is seldom or never sufficient to catch the Disease, there being but few if any of those minute living Creatures or their Eggs communicated, and those that are, may not perhaps be produced into Life or nourished and increased; besides we may imagine that some Persons are of such an happy Constitution, that if any of the *Ova* happen to get into their Bodies, they may likewise be quickly forced out again before they are produc'd into Life; or else be wholly destroy'd by finding the Soil unsuitable."

THE MONGOOSE STORY.—The attention of the passengers was intently directed upon a curious cage-like package, tied up in a coloured handkerchief, which he held very carefully upon his knees. It was not very long before curiosity compelled a neighbour to ask him what he had there in the cage. "A mongoose," he replied. "What's a mongoose?" "Oh! a beast that kills snakes. You see, I've got a friend who is very ill, and says his room is full of snakes; so I'm taking him this to rid him of them." "But those aren't *real* snakes," objected the neighbour. "Well, my friend," said the old fellow slyly, "and *this aren't a real mongoose.*"

AN ENTHUSIASTIC JENNERIAN.—A happy father out on Massachusetts Street, Buffalo, had his first child, a girl three months old, vaccinated the other day. "By George, isn't that great!" he exclaimed, as he saw the doctor at work. "By Jove! why, I guess I'll call her by that name! Vaccine? Why that is a girl's name, ain't it? Vaccine Virus Saunders! Capital! People will think we are descended from some old Roman family. Dear little Vaccine!" The mother strongly objected to this appellation for her first-born. She wanted it named Imogene, but the father was determined, and Vaccine Virus Saunders she will go through life. Her diminutive will probably be "Vacksy."—*Western Medical Reporter*.

New Books, etc., Received.

- The Diseases of Children, Medical and Surgical. By HENRY ASHBY, M.D. Lond. and G. A. WRIGHT, B.A., M.B., Oxon. London: Longmans, Green & Co. 1889.
- A Modern Superstition in Disease; the germ theory reconsidered. By LEWIS SANDERS.
- American Resorts with notes upon their climate. By BUSHROD W. JAMES, A.M., M.D. Philadelphia and London: F. A. Davis. 1889.
- On the Respiratory Functions of the Nose. By GREVILLE MACDONALD, M.D. London: Alexander P. Watt. 1889.
- Medical Handbook of Life Assurance. By JAMES EDWARD POLLOCK, M.D., F.R.C.P. and JAMES CHISHOLM. Cassell & Co., Ltd. 1889.
- The Queen's College, Birmingham. Calendar for 1889-90. Hudson & Son, Printers, Edmund Street, Birmingham.
- Father Damien: A journey from Cashmere to his home in Hawaii. By EDWARD CLIFFORD. London: MacMillan & Co. 1889.
- A Textbook of General Therapeutics. By W. HALE WHITE, M.D., F.R.C.P. London: MacMillan & Co. 1889.
- Cyclopædia of the Diseases of Children, Medical and Surgical. Edited by John Keating. Vol. I. Philadelphia: J. P. Lippincott & Co.

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THE
BIRMINGHAM MEDICAL REVIEW.

SEPTEMBER, 1889.

ORIGINAL COMMUNICATIONS.

THE PRINCIPLES OF INFANT FEEDING.

BY ALFRED H. CARTER, M.D. LOND.
SENIOR PHYSICIAN TO THE QUEEN'S HOSPITAL, BIRMINGHAM.

(Continued from page 92.)

THE conditions which determine the quantity of food required by an infant are twofold—on the one hand there must be enough to satisfy the needs of growth and development, and on the other hand, no more than the stomach can conveniently hold. When a child ceases to grow, taking food greedily, vigorously sucking its thumbs (often to soreness), whining and peevish, especially at night, with nothing apparently wrong with the food, and with no sign of gastro-intestinal disorder, we may be pretty sure it is being underfed. The remedy is obvious. Sometimes again a child is reported as giving no trouble, sleeping well—in fact unnaturally so—with no sign of any ailment, and yet shrinking rather than growing. More often than not, in such a case, the bulk of food is sufficient, but its quality is too poor from over-dilution.

The quantity of food which should be given at one meal practically depends upon the size of the stomach. It is true that when food is taken beyond the comfortable capacity of the stomach the excess is readily rejected by an infant, but by frequent regurgitation the organ is apt to become unduly irritable. As a rule its average size during the first week does not exceed an ounce. From this time forward it increases—roughly speaking

—at the rate of about an ounce a month up to six months of age; but doubtless this varies not a little, according to the size and rate of growth of the child. Mistakes of quality are often associated with those of quantity, but habitual excess is alone responsible for many cases of chronic vomiting. The average capacity of a feeding bottle is seven to eight ounces, but a child cannot usually accommodate this quantity until about six months old.

Absolute regularity of the interval between meals should be insisted upon; though of course such intervals should be longer by night than by day, and longer as the child grows older. With very little trouble a healthy baby may be trained to wake at definite times for food; but in order to secure this happy result it is of cardinal importance to give no food at other times. Regularity in feeding is not only desirable in the interests of healthy digestion, but it constitutes a moral discipline of the highest value in infant training.

The average frequency of meals for different ages up to six months is set forth in Table C. Ten meals in 24 hours means about every two hours during the day and about three times at night; nine meals, every two hours during the day and twice at night; eight meals, every two hours during the day and once at night. After about four months of age a healthy child should not require food at all between 10-30 p.m. and 6 a.m. Not only is there no objection to a child drinking plain water to its full desire at any time, but it is advantageous; it facilitates metabolism, it helps the action of the bowels, and dilutes the urine, and thus prevents the discomfort which so often arises from irritation of the urinary passages by over-concentration.

TABLE C.

<i>Age of Child.</i>	<i>Quantity at each Meal.</i>	<i>No. of Meals.</i>	<i>Total Quantity of Food.</i>
2-3 days ...	1 ounce ...	10 ...	10 ounces
1st week ...	1½ ounces ...	10 ...	15 "
1-2 months ...	2-2½ ounces ...	9 ...	18-24 "
2-3 " ...	3-4 " ...	8 ...	24-32 "
3-4 " ...	4-5 " ...	7 ...	28-35 "
4-5 " ...	5-7 " ...	6 ...	30-42 "
5-6 " ...	6-8 " ...	6 ...	36-48 "

With regard to the mode of feeding, there are also some points which deserve mention. In spite of the advantage which strictly belongs to the so-called slipper-bottle, that which is fitted with a long rubber tube is so very much more convenient that it is no wonder it holds the field against other patterns. The chief difficulty consists in keeping the tube clean ; and for this purpose it is usual to rinse it and to draw a brush through it and allow it to stand in water until the next meal. This plan may be further improved upon by the employment of a fairly strong solution of borax in the place of pure water ; and probably it is better still to sterilize the whole apparatus by thoroughly steaming it for fifteen minutes in a saucepan before each meal. This last proceeding is especially desirable in hot weather ; and it is quite easy to perform. Another very necessary precaution is to prevent the child from bolting its food. This can be very readily managed by judicious regulation of the amount which passes through the tube by pressure of the latter by the finger against the flat end of the stopper. Where there is a marked disposition to vomit, it is often better to feed with a spoon rather than with a bottle. There can be no doubt that faults in the mode of administration, in the regularity and frequency of meals, and in the quantity given at once, are equally if not more common than faults in the quality of food. When a child's food is stated to disagree, it is too often assumed forthwith that it is inappropriate in kind ; a change is effected with no better result ; indigestion or gastro-enteritis probably supervenes, and the difficulty of the whole problem is immensely increased.

At this point it may be desirable to state that among the signs of suitability of food, there are two of especial importance, both of which are easily ascertained. The one is the rate of growth, as indicated by increase in weight, and the other is a normal condition of the fæcal discharges. The following table sets forth the average rate of growth in a healthy infant up to twelve months of age. Of course departures from these averages are often met with in individual children compatible with good

health ; but the present intention is to emphasise the importance of clear standard notions on the subject.

TABLE D.—AVERAGE INCREASE IN WEIGHT.

Age.		Per Week.	Per Month.
1st month	...	7'5 oz.	30 oz.
2nd	"	7'6 "	30 "
3rd	"	6'7 "	27 "
4th	"	5'5 "	22 "
5th	"	4'4 "	17 "
6th	"	3'6 "	14 "
7th	"	3'1 "	12 "
8th	"	2'8 "	11 "
9th	"	2'7 "	10 "
10th	"	2'0 "	8 "
11th	"	1'8 "	7 "
12th	"	1'4 "	5 "

From the above table, it will be readily seen that the rate of growth is about twice as rapid during the first, as it is during the second half of the first year. To begin with, the increase is roughly at the rate of about an ounce *per diem*, gradually diminishing to about half an ounce *per diem* at six months of age, thence falling somewhat rapidly to about $\frac{1}{4}$ ounce on the completion of the first year. But whatever the absolute rate of increase may be in a given instance, the relative rate in a healthy child who is doing well always corresponds approximately with the figures given, so far as I have been able to judge from a limited number of regularly observed cases. It is a good plan to take the accurate weight of a child at least once a week for the first three months at any rate, and afterwards less frequently, and any serious irregularity in the rate of growth should at once attract attention to the quality and quantity of the food, and the mode of feeding.

A normal motion should be of an uniform pale yellow colour, homogeneous in character, semi-solid consistence, and not specially offensive. Any departure from these features points to gastro-intestinal disturbance, and is probably the outcome of unsuitability in connection with the food.

Although in a majority of cases, disagreement of food has some direct causal connection either with the food itself or the condi-

tions under which it is given, yet it must not be forgotten that disagreement often depends upon a morbid condition on the part of the child. Such morbid conditions it is true are not infrequently primarily induced by inappropriate feeding, but when once set up they become in themselves a reason why ordinary food disagrees, be the latter never so carefully prepared, or faultlessly administered. I allude to such conditions as indigestion, constipation, diarrhoea, chronic vomiting, and flatulence. Indeed, it generally happens that, when called in to advise respecting the malnutrition of an infant, we find it suffering from some ailment which has originally been either in part or altogether induced by faulty diet, and requiring some temporary suspension or modification of food before it can return to any standard diet, and to which it can be led only by degrees. On the other hand, morbid conditions may interfere with proper assimilation which have no causal connection with the food, and at the same time demand an entire re-adjustment of the ordinary diet. In a short paper like the present, the latter cannot be dealt with, as it would involve a description of the dietetic management of all the diseases to which children are subject; but a few hints may be given about the management of two or three common diet diseases.

Among diet disorders none is more common than constipation, dependent upon one of the following causes—insufficient quantity of food, defective supply of water, excess of starchy food, lack of sugar or fat, gastro-intestinal catarrh from indigestible food, and simple debility. Nothing can be more objectionable than the routine treatment of infantile constipation by the routine administration of aperients or enemata. The former are especially injurious, and if recklessly resorted to are almost sure to increase the trouble in the long run. Constipation in young infants at the breast is generally relieved by giving a teaspoonful of syrup before nursing. Again, a liberal supply of water is beneficial in most cases of constipation, and may be curative in some. In a child fed on barley water and milk the substitution of oatmeal water may be tried; and in children over

six months old a teaspoonful of fine oatmeal added to the first meal of the day often has the desired effect. In young children who are growing rapidly, and are thin, nervous, and irritable, the systematic administration of fat and saccharine matter in the shape of codliver oil and malt extract is most advantageous. As a subsidiary precaution it is most important to protect the lower extremities from cold; and it is a good plan to thoroughly chafe the feet, legs, and abdomen—night and morning—of all young children who are especially prone to habitual constipation. It is impossible to lay down rules to meet every case, and enough has probably been said to emphasize the desirability of a strict inquiry into the diet before resorting to aperients or enemata. It is well to be especially careful in the investigation of any case in which constipation is associated with sickness, from the possibility of its being due to intussusception or brain disease; and in cases where the bowels are not only confined but the act of discharging is obviously painful, the anus should be carefully examined for fissure. I have recently seen a curious case of obstinate constipation in an infant, associated with phimosis, which resisted all usual treatment, but was greatly relieved after circumcision.

Acute disturbance of the stomach and bowels characterised by vomiting and diarrhoea requires very strict dieting. These two conditions are often associated. Children exhibit, as is well known, a special tendency to generalisation of inflammatory mischief. For instance, catarrhal sore throat quickly extends to the larynx, laryngitis to the bronchi, bronchitis is especially apt to lead on to pneumonia, pneumonia is almost always catarrhal (associated with bronchitis). In the adult we meet with gastritis, duodenitis, ileitis, typhlitis, and proctitis, each confined more especially to particular tracts of the alimentary canal. In children this is rarely or never so, but gastro-enteritis and entero-colitis are common. Gastro-enteritis is often induced by chill, but more frequently it is due to some error in feeding. In all but the mildest cases milk should be avoided in the first instance, and barley water should be substi-

tuted, given nearly cold, and in small quantities. Whey, rice water, or a teaspoonful of Mellin's food dissolved in a teacupful of water, or the white of an egg dissolved in half a pint of water with the addition of 1-2 teaspoonfuls of pepsine wine may be used instead of barley water. A very good preparation is one which I think was originally recommended by Jacobi, namely, five or six tablespoonfuls of thin barley water, the white of an egg, a teaspoonful of good whisky or brandy, with the addition of a little salt and sugar. A teaspoonful of this may be given every quarter of an hour, or oftener, according to circumstances. Beef tea and animal broths should not be given until the diarrhoea ceases. Broths are less likely to cause diarrhoea than beef tea; and of animal broths, that made from mutton perfectly freed from fat is best, chicken broth coming next in value. In very severe cases, especially in those in which the vomiting is serious, it is far better to keep the child from food of every kind for six hours or longer, or at the most allow only small quantities of water with the chill just taken off. As convalescence begins, a cautious return to ordinary diet may be made by the addition of a small quantity of milk (gradually increased) to the barley water or otherwise.

In chronic diarrhoea dietetic treatment is equally important. First, see that the food which the child is taking is really good of its kind, and conformable to standard requirements; this failing, the next step should be to reduce the quantity of food, and farinaceous and saccharine ingredients should be diminished or cut off altogether. Chronic diarrhoea in young infants is sometimes dependent upon abnormal irritability of the stomach, not unfrequently induced in its turn by feeding too quickly, and I have seen cases in which much benefit has been derived from the simple precaution of slow feeding (by spoon if necessary) and the addition of some warm carminative to the food. The action of carminatives is not exactly understood, but it seems to me very plausible to assume that their beneficial effect is largely due to the power which the aromatic oils have of lowering the sensibility of sensory nerve-endings when brought into close contact with

them. Their "stimulant" action in the expulsion of wind is probably to be explained in the same way, by their rendering the bowel less liable to irritation from irregular distension with flatus, and thus indirectly converting disorderly, inefficient, and painful contractions into orderly and effective peristalsis.

Flatulence and colic occur from one of two causes—insufficient food or indigestion. The former is most common in infants suckled at the breast, and is usually quickly remedied by supplementing the diet with some simple artificial food. In flatulence and colic arising from indigestion, our first care should be to enquire whether the child is not taking too much food, or taking it too quickly. These are perhaps the commonest faults. Or, again, the food may be wrong in quality, under which circumstance it should be regulated on the lines already laid down. It is frequently necessary at first to dilute the food below the standard, and to give in rather smaller bulk at one time until the stomach has regained its tone and vigour. The addition of a small quantity of bicarbonate of soda or a few grains of Benger's pancreatic powder to each meal is often of great service.

Occasional vomiting in young children is usually of little importance, and calls for no special remark; but if frequently repeated, either the diet is at fault or it is the result of some serious mischief, nervous or otherwise; and it is sometimes next to impossible to distinguish this latter variety in the first instance. With suckled infants chronic vomiting is usually due to over supply of milk—either too much or too often. When dependent upon undue irritability of the stomach and acid indigestion, slow feeding with diluted food in moderate quantity should first be tried; if this fails, well diluted condensed milk, or Savory and Moore's peptonised milk, sometimes succeeds; while in the worst cases, where the child seems to be unable to deal with milk in any form, I am accustomed to pass gradually through some such series of foods as this: (1) Thin barley water, whey, weak solution of white of egg with added salt, or thin white-meat broth; (2) any of the same slightly thickened with

Mellin's, Nestlé's, or Savory and Moore's food, or a little baked flour ; (3) cautious addition of milk, first to one or two meals in very small quantities, and afterwards oftener and in larger proportion, till I get on to something like a standard food. All food should be quite cool, and given slowly with a spoon if necessary.

Space will not permit of my entering further into the treatment of diet-diseases ; and, in order to emphasize the greater importance of attention to the dietetic management of these common ailments, I have purposely avoided saying anything about medicinal treatment, satisfied though I am as to the adjuvant value of drugs if properly used.

Just a word in conclusion as to the importance of detecting the earliest indications of malnutrition. When begun early the adjustment of the diet may be simple ; when neglected until the digestive apparatus has become seriously compromised the difficulties of the problem are immensely increased, and may be insurmountable. Again, while the value of rules and fixed methods is undoubted, as indicating the principles on which we should proceed in the artificial alimentation of infants, they cannot supersede the necessity of independent and intelligent judgment of each case on its own merits.

NON-TUBERCULAR PULMONARY CAVITIES.

BY ARTHUR FOXWELL, B.A., M.B. CANTAB., M.R.C.P.
ASSISTANT PHYSICIAN TO THE GENERAL HOSPITAL, BIRMINGHAM.

(Continued from Vol. xxv., p. 331.)

THIS, the second, portion of my paper I wish to devote to the consideration of the *treatment* of these cavities, and in the first instance desire to point out the results of Nature's unaided efforts at cure, and the dangers attending these.

Jurgensen, speaking in general terms, states that recovery is not so very uncommon—this he says in 1876, before their sur-

gical treatment had entered the range of practical medicine, for the first recorded case of this is, I believe, that of Radek in 1878 (*Centralblatt für Chirurgie*, No. 44, 1878, p. 750). He thinks the prognosis, however, decidedly unfavourable, if the cause be due to infective emboli, putrid bronchitis, bronchiectasis, and sometimes also after acute pneumonia. It is, too, much more unfavourable when the upper lobe is attacked: this is evident for two reasons—1st, the lower lobes are very likely to become diseased from overflow and gravitation of discharge into them; and 2nd, the upper chest lends itself much less readily to the contraction of lung necessary for the healing process to take place. In the seven cases reported by Leyden and Jaffé, 3 were in the upper and 4 in the lower lobe: the 3 upper all proved fatal. Of the 4 lower, 2 were completely cured, 1 incompletely, and the 4th was progressing favourably at the date of the report.

But imperfect recovery is, after death, the commonest result if Nature be left to herself: a pyogenic cavity or cavernous system forms by which large quantities of pus are daily secreted. The system may withstand this for years—two to ten or fifteen—but sooner or later it breaks down under the exhausting drain, and death results much as it does in cases of unhealed psoas abscess—with lardaceous and fatty degeneration. But other dangers also exist: the anatomical structure of the lungs and their functional activity lend themselves greatly to auto-infection, and also to infection from without. Finally, their disease lessens the oxidation of the blood, and hence of the tissues generally, thus diminishing the vitality of the whole organism and laying it especially open to pathological degeneration and to the inroad of germs.

The question of *tubercle* thus arising in previously thoroughly sound organisms is one of great interest and must be my apology for quoting the two following cases:—

The first occurred in the practice of M. Varnier, and is reported in the *B.M.J.* for 1887, vol. i., p. 351. A male, previous and family histories excellent. Three days prior to admission he complained of stitch in his left side. There was

some dulness at the posterior base, but no fever. Eighteen days later this dull area was punctured and hooklets withdrawn. The next morning he expectorated hydatids with clear liquid and blood, whilst hydropneumothorax developed. The chest was then opened, but nothing escaped, though the next morning hydatid *débris* was seen on the dressing. One month later he died.

The *post mortem* shewed a hydatid sac at the base of the left lung, which was separated from the chest wall by only a thin portion of lung. In both lungs there was recent miliary tuberculosis, which M. Varnier suggests was due to infection through the wound.

On the other hand, Professor Gairdner shewed, at a Glasgow Society in Jan., 1886 (*B.M.J.* i., 1886, p. 21), the lung of a man, aged 66, who had frequently been under treatment at the Glasgow Infirmary with symptoms of bronchitis and emphysema accompanied by considerable probably bronchiectatic excavation at the left base, which, however, added but little to the gravity of his symptoms. The patient stated that he had been very liable to bronchitis since an attack of "inflammation of the lungs thirty years ago." He had had three wives, all of whom had died of phthisis or scrofulous disease. By these sixteen children had been born to him, of whom but one, the first child of the first wife, was alive in 1883. He had therefore been excessively exposed to tubercular virus.

At the *post mortem* there was one largely dilated bronchus and many smaller ones, but *nowhere was there any deposit of tubercle.*

That the bacilli of tubercle *do* exist in these cavities there can be no doubt, for they have been found in the expectoration as well as in the cavities themselves. In the sputum of a gentleman suffering from double bronchiectasis (*vide* p. 322) I found a few imperfect bacilli as well as some spores. Indeed, as Dr. Filleau, in an able monograph on the treatment of phthisis, remarks: "Bacilli may be found even in strong and healthy individuals; that is to say, in those who exhibit no tubercular taint. They are constantly found in those who

live long in close proximity with tubercular subjects. To cite only one example, we have repeatedly examined our own sputa, and have regularly observed in them several bacilli and a few spores. We even preserve a very remarkable slide on which is seen a large epithelial cell closely resembling a giant cell, inside which are five undoubted bacilli. The preparation was made by Ehrlich's method, and is of so typical a nature that one could swear it came from a tubercular patient. However, it was furnished by one of us, of whose health," he naïvely goes on to say, "there can be no shadow of a doubt." In fact, there can be no doubt that bacilli glide in through our vocal cords along with many other impurities, but luckily, as a rule, only to find themselves on a barren and sterile soil, in which they live with much the same kind of vitality as frogs exhibit when they dream away our long inhospitable winter—a winter to them barren and unfertile, in which they neither marry nor are given in marriage. But—and this is the point to remember—the bacilli are there, ready to revivify themselves should the soil at any time change to a more kindly nature. Further, the tubercle bacillus has a great persistency of life; for MM. Chantemesse and Widal (*Archives de Médecine Expérimentale*, i. i., 1889) have found it capable of reproduction after fifty and seventy days' exposure to sterilised Seine water. Tubercle cannot arise without bacilli, and yet these are harmless in an unfertile soil. Bacilli we have always with us, hence the grave importance of denying them any fertility of soil.

Bis dat qui cito dat must then be the motto of all our efforts. We all know how almost interminable is the course of a one-sided fibroid phthisis. And how is the end at last reached? "In most cases," says Douglas Powell, "sooner or later the opposite lung is affected and *generally with grey tubercle*, unless an intercurrent disease cut off the patient." As Hilton Fagge has well said, "Tubercle is the product of a modified inflammation." It is our duty then to do what we can to prevent this modification taking place.

But though I have spoken somewhat despondingly of its power

if left alone, yet we must not forget the virtue of the *vis naturæ* residing in each one of us. After all, even in the matter of tubercle, it is but a question of degree: the physiological fades imperceptibly into the pathological. With some of us the bacillus would never have the ghost of a chance; with others, the first break down of lung tissue would enable it to win an easy victory; while the bodies of most of us lie between these two.

The means at our disposal for the treatment of lung cavities are the following:—

1. Calisthenics.
2. Exhibition of drugs by the stomach.
3. Exhibition of drugs by the trachea.
4. Exhibition of drugs by subcutaneous injection.
5. Exhibition of drugs by their injection into the cavities themselves.
6. Incising the cavity and draining it—1st by an ordinary tube, 2nd by perflation.
7. Resection of the diseased lung.

1. *Calisthenics* ("exercises for health, strength, or elegance") are naturally of service only when an outlet for the discharge of the contents of a cavity has already been formed. But as it is extremely rare for even a single cavity to caseate and dry up without rupture into a bronchus, this limitation is not of much importance. They are of use in these ways:—1. To increase the movement of the lungs, thus increasing the oxidation of the blood, and so tending to obviate the fatty and lardaceous degeneration of the body generally, and to improve the circulation and vitality of the lungs themselves; in fact, to give them the advantages of *passive* exercise. 2. By placing the body in a suitable position, they enable the cavities to drain better. Thus, Dr. Douglas Powell advised a patient of mine to lie on a couch two or three times a day, and to lean over first on one side and then on the other, the head thrown somewhat back and nearly reaching the ground, whilst the uppermost arm is extended behind it and the lower beneath the body. In this

way the upper half of the chest tends to be distended and the lower contracted, so that the bronchial tubes of the former would be as patent as possible, whilst the larynx, being the lowest point, and the base of the lung the highest, gravity would induce the secretions to flow out of the mouth.

The Pneumatic Cabinet is a mode of producing pulmonary calisthenics which is perhaps more useful in the prevention than cure of cavities, *e.g.*, in re-expanding collapsed lung, etc.*

I feel convinced that the difficulty of getting patients to carry out any calisthenic proceedings with perseverance has prevented these obtaining the high therapeutic position they would otherwise have held.

2. *Exhibition of Drugs by the Mouth.*—The number of these is legionous and I shall best consult your advantage by confining myself to one of which I have had fair trial. I mean *Iodoform*. This is a drug containing 96 per cent. of nascent iodine : it is not perceptibly soluble in water but is so in fixed or volatile oils ; it is therefore best exhibited in pills, capsules, or cod liver oil, or it may be dissolved in oil of eucalyptus (which is itself of very high value in pulmonary complaints), and a few drops taken on sugar. It is very unirritating and is very slowly absorbed from the stomach, traces being found in the urine three days after the ingestion of a dose. Its absorption is probably aided by the fat in the food (Brunton). Its utility in lung disease was first pointed out by Semmola in 1878 ; he had used it in cases of bronchial catarrh, asthma, and broncho-pneumonia ; he also found that cases of incipient phthisis were cured by it, and that in even advanced cases expectoration is lessened, cough and fever abated, caseation arrested, and life prolonged.

Dreschfeld used it in a large number of cases and found increase of weight and appetite, with lessening of temperature, night sweats, cough and expectoration.

* For details regarding this cabinet and the principle of pneumatic differentiation, see a report by myself in this *Review* for October, 1887, and also Dr. Theodore Williams in his Report to the Medical Society of London in the *Brit. Med. Jour.* of May 4th, 1889.

Shingleton Smith in 1884 gave an analysis of 46 cases, shewing that in 29 there was an absolute increase of weight under its use, and that in the remaining 17 the loss of weight was small, and in many of these the wasting, which had been rapid, was more or less completely arrested.

During the whole of 1887 I used it in all my cases of phthisis in the out-patient room. I began with gr. j. t.d.s. and did not exceed gr. 12 per diem. Out-patient statistics are scarcely worth recording arithmetically, but my general impression is that with it I obtained considerably better results than by any other drugs I have used. It was always well borne for months together. It certainly acted as a pulmonary sedative, greatly relieving the symptoms of irritation and so rendering the lives of the patients much happier, but whether it effected any radical change in the lung condition or whether the patients gained weight I do not know.

In a private patient with bronchiectasis I gave it with a double quantity of tar—gr. j. iodof., and gr. ij. tar—to the pill. He began with six pills daily, and increased these in two months to 22, at the end of which time all his moist sounds and rhonchi had vanished, his cough was much less troublesome, and he had gained 3-lbs. in weight.

Another man, with pulmonary hydatids in both lungs, who has been under my care three years, and who had symptoms referable to these for three years previously, has also taken iodoform for months at a time. In his case I pushed the drug to 30-gr. per diem with doubtful result on his symptoms. I may say here that Lazansky gave as much as 90-gr. a day in syphilis (Wood); but Shingleton Smith considers 30-gr. the safe limit, whereas he considers that to render the whole body antiseptic as much as 40-gr. must be exhibited.

But here we must remember the slow excretion of the drug; indeed, M. Mracek in 1882 injected 85-gr. in thirteen days, and found that during these thirteen days only 20-gr. were excreted, leaving 65-gr. still in the body. It is thus easy, by giving 30-gr. daily, to keep 40-gr. or even 60-gr. constantly in the body. But

I feel convinced that as much as 40-gr. is not necessary. Dr. Shingleton Smith's calculation is based upon the supposition that a human being is a mass of inert flesh, weighing so many pounds, and requiring so much per pound of a germicide to keep it from putrefying; but he forgets the *vis naturæ*. "Now by my faith," says Dr. Filleau, "we are no mere culture *bouillons*." Diseased nature only requires *assistance*. She is like an over-burdened horse striving with his load up a steep hill-side. But, though the horse should come to a weary standstill, yet will his owner not forget his strength, and will seek far less help than if the horse were dead.

3. *Exhibition of Drugs by the Trachea; that is, Inhalations.*—Besides having a calmative effect on the larynx, trachea and large bronchi, I must say I have never seen much benefit arise from this method of medication. I have never, for example, seen the fœtor of bronchiectasis remedied by them. I admit that opinions as to their value are greatly at variance; but this very variance is sufficient to make one hold aloof from a method of treatment which is both laborious and unpleasant to the patient, and must indirectly do him harm by limiting his respiration. If they are employed, a solution of iodof. gr. 20, ol. eucal. ℥ 20, rect. spirit 3 ss., ether 3 ss. will be found very serviceable. It should be used on a sponge in a naso-oral inhaler twice a day for two hours at a time. In chronic cases inhalations of medicated steam should be avoided, on account of the relaxing action of the water vapour on the throat and trachea making these very troublesomely liable to catarrh. To the inhalation of cold pulverised fluids this objection does not apply.

4. *Sub-cutaneous Injection of Drugs.*—Clinically this has many disadvantages as compared with administration by the mouth, and theoretically it has no advantage, and must be administered in proportionately equal quantities. For an acute effect it is of course much to be preferred; but in these cases we prefer to gradually get our patient under the full influence of the drug, and so avoid the danger of any unpleasant symptoms. There does not therefore at present seem any reason for making use of this method.

5. *Intrapulmonary Injections.*—This is a method of treatment which holds out considerable hope for the future. There are already a great number of cases recorded in which it has been tried [Pepper, Beverley Robinson, Ransom, etc.]; naturally most frequently in tuberculosis. That with care it is a comparatively harmless procedure seems well proven. Prof. Riva, of Pavia, made upwards of one hundred injections of 40 to 50 cc., each of a 1 in 3,000 solution of mercurial bichloride, with no ill result. Dr. Shingleton Smith, of Bristol, has extensively used various solutions. He first tried iodoform, and preferred it dissolved in absolute ether, in which it is soluble in the proportion of 1 in 8. This had “only the disadvantage that, by causing temporary giddiness and head disturbance, the patient becomes timid of the injection and unwilling to have it repeated.” All other solutions of iodoform or iodol he found acted as local irritants, and could not be “safely or harmlessly” used. The amount of iodoform used in each injection was about one grain. Camphor carbolate was next tried. This is the clear fluid obtained by dissolving three times its weight of camphor in a 95 per cent solution of carbolic acid. This solution was giving excellent results in injections of 30 to 60 minims, when on the sixth administration to a case of advanced phthisis, the fluid entered a cavity and thence flowed into a bronchus, producing acute suppurative bronchitis with death in forty hours, shewing that though innocuous to connective tissues, its action on mucous membranes was far otherwise.

Biniodide of mercury was then resorted to, the following solution being employed:—Hydrargyri biniodidi gr. j., potassii iodidi gr. j., sodæ phosphatis gr. ij., aq. distillatam ℥ 50, as much as two-fifths of a grain of the mercury salt being injected at once. This gave some very encouraging results, and no ill effects occurred. This drug, indeed, seemed to Dr. Smith the most suitable of all; though Villemin states that its antiseptic properties as regards the bacillus of tubercle are very feeble indeed.

During a considerable experience of intrapulmonic injection

with various drugs Dr. Smith encountered the following mishaps:—

1. The acute suppurative bronchitis above referred to.
2. Acute pleuritis: two cases with speedy recovery.
3. Pneumo-thorax, temporary and harmless.
4. Intense pleuritic pain, lasting hours, and requiring full doses of morphia.
5. Violent fits of coughing.

With the exception of the first, none of these are of sufficient moment to offer a bar to the practice of this treatment, and I believe it has a considerable future before it. The different action of a drug upon the lung parenchyma and the mucous membrane of the bronchus is certainly of great importance, and before using indiscriminately any special solution, the nature of this double action should be carefully investigated by experiments on animals, in the first instance, and afterwards at the bedside.

6. *Incision*.—In the single cavity, acute or chronic, incision seems to be just as much a necessity as in acute empyema; even in pyæmic cases I think this would be the correct treatment. Localisation is the great difficulty to be faced. This is no doubt often impossible; but much can be done by the way of circumstantial evidence in making a very shrewd guess as to the position. No straw of evidence should be neglected: the key is often found rather in a wise estimation of the symptoms than in a minute physical examination. Naturally exploring with a needle which will easily carry pus should be first undertaken, and the exploration should be thorough. Griffith in his excellent article on empyema (*Medical Chronicle*, March, 1889) has some cogent remarks on the necessity of thoroughness—if, he says, in a case of empyema “when from the symptoms we have a reasonable suspicion that pus exists, we should *go on till we find it*, anæsthetising the patient if necessary, and proceeding systematically. In one case it was not until nine punctures had been made that pus was found, and why we did not get it before I do not know; and in another case a double empyema was discovered after repeated exploration.”

With these remarks I thoroughly agree ; indeed I believe that in this as in many other instances in medicine much is often lost from mere lack of energetic perseverance on our part. We lack a sufficiency of Dr. Moxon's "initial" energy, so that the biassed and unwise resistance of the patient baffles our weak determination. The exploring syringe should be capable of holding not less than a drachm, and the hollow needle should at any rate be not less than four inches long. If after several punctures no pus be found this needle should be replaced by a six-inch one. Whenever blood appears in the syringe this should always be slowly and carefully filled ; by this means the lung may be artificially leeches to the extent of an ounce or more. To those who have often gazed on the tensely-gorged tissue around a lung abscess, or have seen the still deeper filled lung in which exudation has gone too far for resolution and which would have become an abscess had death allowed it, the great advantage gained by this procedure will not be underestimated, especially if they have examined the dilated capillaries and the microscopic alveolar and interstitial hæmorrhages. In fact I feel sure that if we could always reckon on withdrawing blood by the exploring syringe "exploration" would be a desirable method of treatment for its own sake quite apart from its diagnostic value. Unfortunately, as a rule, this does not take place. The withdrawal should be made gradually so as merely to relieve the local tension and not attract blood thither from other regions. By acting thus any tendency the puncture may have given to cause hæmorrhage will be obviated.

The surgeon's great bugbear in this matter of incising lung appears to be the fear lest opening the pleural cavity may cause collapse of the healthy portion of the lung, with its consequent danger of fatal fainting. Another great objection is the fear that a suppurative and general pleurisy should be set up. By many it seems to me that both these objections are made far too much of, for these reasons :—1. The first is equally present in opening any acute empyema ; yet we do not hesitate to do this, and any serious mischief resulting from this cause is of

extreme rarity. 2. If any portion of a lung be so diseased as to form an abscess cavity, there is pretty certain to be at least one-half of the whole lung *hors de combat* and incapable of collapse or being of much present value to the patient. 3. Dr. Samuel West has shewn (*Lancet*, vol. ii., 1887, p. 353) that the force of cohesion of two smooth membranes, such as the pleura, is almost double that of the elasticity of the lung (12·5 mm. Hg. as opposed to 7). It is evident, therefore, that if air be admitted into a portion of the pleura, there is no reason why it should separate the pleuræ through the whole of their extent, provided they be healthy. This is doubtless the explanation of those small local cases of pneumothorax which occur in apparently healthy people, or after pulmonary injection.

The incision once made and the cavity emptied, the question arises of its further treatment. The course usually adopted is to use a single, large-sized drainage tube. The cavity is then either washed out once a day with some antiseptic solution, or left alone so long as free drainage appears to exist. But of late some have preferred to treat empyemas by perflation.* And I see no reason why the same method should not be advantageously applied to lung cavities. Less force, however, would have to be used, for the lining of a pulmonary abscess is usually friable and easily broken down. A strong blast would thus penetrate into the lung parenchyma, and might cause serious and destructive emphysema. If the track of the incision be a dependent one, in the usual position of the patient the simple, unaided drainage tube is probably quite sufficient.

* Perflation—"through blast" (Wm. Ewart; *Lancet* ii., p. 226).—In empyema it has the following objects:—1. Avoidance of all fluid injections and their irritation. 2. *Complete* evacuation of pleura (this seldom done by fluid injections).

Apparatus.—Bottle 8 inches high with $1\frac{1}{4}$ ins. sol. carbolic ac, 1 in 10. Cork with two tubes, one dipping into sol., one just piercing cork. Richardson's bellows and india-rubber tubing. Tube may be inserted several inches and one hole is enough.

Advantages.—1. Air diffuses into every nook and cranny. 2. Hence influences every corner—fluid stream only spirts on one or two points. 3. Water merely dilutes fluids and suspends light solids, but either of these sinks in air; hence if aperture be at *lowest point* all these will be driven there.

7. *Resection*.—But, unfortunately for our patients, the most trying cases of lung cavities, and those where interference seems most to be desired, are those in which the cavities are not single but multiple, for the most part small and sinuous and imperfectly separated from each other, the whole forming a tortuous labyrinth whose communications are diseased bronchi. The walls of this labyrinth are composed of very vascular and unyielding fibrous trabeculæ, which persist in keeping the cavities open and forbid any attempt at their collapse. Hence, the expiratory efforts of the patient for the most part vainly endeavour to squeeze out the secretion contained in them. The labyrinth is a pus-logged one, and withal exposed to the decomposing effects of ordinary air. The pent up pus naturally becomes thin, serous, and extremely fœtid, and is liable to set up a form of chronic septicæmia. We have, then, two attempts to make—to establish free drainage, and to induce the trabecular walls to take on a healthy, granulating action. No doubt this latter would follow if free drainage could be established; but this, I am afraid, is an impossibility. The cavities are not counted by ones, but by tens. And I think the most ardent surgeon would hesitate before he stuck the base of a chest with drainage tubes till it resembled the fretful porcupine. This is what a well-known London physician seriously told me he would have done to himself did he possess such a lung. Theoretically such free drainage is no doubt the correct treatment; let us hope that soon it will also be that which is found to act best in daily practice.

But we must not forget that, as Dr. Percy Kidd has pointed out, it is the trabeculæ which cause all the difficulty. Simple drainage would hardly be sufficient; the lung would then resemble a dropping stalactite cavern. It is these stalactites, this trabecular scaffolding, which it is so essential to clear away. They are too resistant to fall together and cohere, even after the freest resection of ribs. If coherence partially took place, their structure is so depraved that no reliance could be placed upon its permanency. Sooner or later disintegration would certainly

occur. It is for such cases as these that resection of lung seems the only treatment. These fibrous trabeculæ are intensely vascular, and its veins are almost as dangerous as its arteries. Hence the knife can be but little used, and the *écraseur* is to be preferred. Such an operation in a debilitated subject is not one, I need hardly say, to be lightly undertaken. On the other hand, the condition of the patient is sometimes sufficiently painful, both to himself and his friends, to justify its performance, especially when we remember that the outlook otherwise is hopeless.

A NOTE ON THE USE OF THE OPHTHALMOSCOPE IN CLINICAL MEDICINE.

BY C. W. SUCKLING, M.D. (LOND.), M.R.C.P.

PHYSICIAN TO THE QUEEN'S HOSPITAL, BIRMINGHAM.

PROFESSOR OF MATERIA MEDICA TO THE QUEEN'S COLLEGE, ETC.

To those acquainted with the use of the ophthalmoscope it will appear superfluous for me to insist on the great importance of this instrument in clinical medicine and on its routine employment in practice. My excuse in writing this paper is that the ophthalmoscope is very little used by general practitioners, and that I experience the greatest difficulty in persuading medical students to obtain an instrument and daily practise its use. A three months' daily course at the Eye Department of the Queen's Hospital or at the Eye Hospital will enable anyone to master the instrument sufficiently to be able to recognise all that is required in clinical medicine. I always advise my students to use the direct method and to practise with a naked candle. It is always possible to obtain a candle, and with a little practice it is quite sufficient. The conditions which a practitioner should be able to recognise are optic neuritis, optic atrophy, albuminuric retinitis, hæmorrhages in the retina, embolism of the central artery of the retina, choroïditis disseminata, and errors of the refraction. He should be able to tell whether the patient

is myopic or hypermetropic to enable him to see the disc. The estimation of errors of refraction should be left to experts. To illustrate the absolute necessity of the use of the ophthalmoscope I will relate a few cases.

A practitioner at Handsworth recently asked me to see a case with him to decide whether the hemiplegia complained of was hysterical or otherwise. The patient was a young girl about eighteen. She had been suddenly taken ill after a dance. I found marked hemiplegia on the right side, the face and tongue being affected. The implication of the face and tongue suggested that the case was due to organic disease, but it was not absolute proof of this. There was no heart disease and no albuminuria. I examined the right eye, and found no change in the disc. I then examined the left, and found intense neuritis. This at once settled the diagnosis; the hemiplegia was due to tumour of the brain; and it turned out to be so, for the girl, after becoming paralysed on both sides, died in a few weeks. Of course it must be remembered that optic neuritis may be caused by anæmia and chlorosis, apart from any serious brain disease; and these causes must be borne in mind in estimating the significance of optic neuritis in young girls. A lesson taught in this case also is that both eyes must be examined, for the neuritis may be confined to one disc. I certainly should have missed the diagnosis had I not examined both eyes. Dr. Hughlings Jackson thinks that in cases of this kind the disc on the opposite side to the brain lesion is more frequently affected than that on the same side. My case did not support his opinion.

A young lady was brought to me complaining of slight weakness of one leg and of peculiar numbness of the arms and legs. There was nothing to be seen, and I was inclined to regard the case as one of a functional nature. On examining the fundus oculi however I found marked pallor of both discs, and therefore gave a guarded prognosis, fearing some chronic degenerative disease. In two years time there were well-marked symptoms of multiple sclerosis. Optic atrophy may be the first symptom of locomotor ataxia, multiple sclerosis, or of general paralysis.

I was called a few weeks ago to see a woman supposed to have cancer. I found the patient very anæmic, the anæmia having come on after severe trouble and worry. I found no tumour anywhere, though the vomiting in a woman of 50 years of age suggested malignant disease. On examining the fundus oculi I found copious retinal hæmorrhages. These hæmorrhages enabled me to diagnose pernicious anæmia, and on enquiry I found there had been repeated epistaxis. The diagnosis proved to be correct.

In all the cases of pernicious anæmia I have met with there have been retinal hæmorrhages. Last year I had under my care six cases, all of which proved fatal, and in all of which there were copious retinal hæmorrhages. Retinal hæmorrhage only denotes severity of the anæmia—it occurs when the red corpuscles are reduced to 50 p. c. and under.

Every ophthalmic surgeon can tell of cases of Bright's disease first recognised by him when examining the fundus oculi. It is a well-known fact that albumen may be absent at times in cases of chronic Bright's disease. A year or so ago a man applied to me for relief for headache which was frontal and severe. He had no cardiac hypertrophy, no high pulse tension, and there were no retinal changes. I could only obtain a small quantity of urine to examine. The sp. gr. was 1016, and there were no casts and no albumen. I suspected Bright's disease from the man's anæmia, but I could not tell for certain. Later on his doctor wrote me that he had a large quantity of albumen in the urine. I felt rather small on hearing this, thinking that I might have made some mistake when examining the urine. Later on I heard from a gentleman who had acted as *locum tenens* for the doctor, that he was deceived also, for he could not find albumen at first though he did later on. The man died from uræmic eclampsia.

A young lady recently came under my care suffering from severe hemiplegia with rigidity. The hemiplegia came on suddenly without coma. There was no albumen and no heart disease. I of course suspected syphilis to be at the bottom of the mischief, but there had been no headache and no miscar-

riages. On examining the fundus oculi I found well-marked choroiditis disseminata, and on interviewing the husband, found that he had had syphilis. In children choroiditis may be the only indication of hereditary syphilis.

A man in the workhouse, who was able-bodied and at work, complained of sudden loss of sight in the right eye after having a warm bath. I found the characteristic appearances of retinal embolism, and on examining the heart, found a well-marked pre-systolic bruit.

I have a patient in the Queen's Hospital at the present time who is suffering from alcoholic paralysis. On examining the fundus oculi I found optic neuritis. I published a similar case last year, in which there was ophthalmoplegia externa with optic neuritis due to alcoholism. I believe there are only three or four cases on record where optic neuritis has been produced by alcoholism; but there is no doubt of the fact, and it must be borne in mind, or a wrong diagnosis might be made. I was recently asked to see a gentleman suffering from severe pain in the head. From his answers I concluded that the pain was migrainous, for he had suffered from migraine for many years. However, on examination with the ophthalmoscope, I found severe optic neuritis. I have never heard of or seen optic neuritis due simply to migraine. I therefore gave a guarded prognosis, and considered that there was probably a cerebral tumour.

The ophthalmoscope is not only invaluable in diagnosis and prognosis, but also in treatment. I have occasionally found signs of commencing neuritis seen especially where the vessels leave the disc; there being a little effusion and increased tortuosity of the vessels at these points, but the outline of the discs being otherwise well defined. These cases have frequently yielded to mercury and iodide, and the signs of neuritis have disappeared. I have seen optic neuritis in typhoid fever, secondary syphilis, very frequently in lead poisoning (here again care must be taken not to mistake the case for one of cerebral tumour) tuberculosis, and in apoplexy a few days after the hæmorrhage.

Scurvy is very commonly met with at the Workhouse Infirmary. Tramps frequently live on bread and bacon, and often have no vegetables for months. In these cases I frequently find retinal hæmorrhage. In a case where I diagnosed tuberculosis, the discovery of optic neuritis enabled me to foretell the early approach of tubercular meningitis.

A young man was recently admitted into the Queen's Hospital presenting symptoms of melancholia. Optic neuritis was found to be present, and this at once distinguished the case from one of insanity.

I could multiply the illustrations I have already given, but perhaps I have related enough to prove the great value of the ophthalmoscope to medical practitioners. I look back upon the three months I attended the out-patient department of the Eye Hospital with much pleasure, for I regard it as the most valuable instruction I received as a student. I recommend all my readers, who have not hitherto done so, to read Gowers' "Medical Ophthalmoscopy."

HISTOLOGICAL NOTE.

BY T. LAW WEBB, M.R.C.S. ENG.

To those who do much section-cutting by freezing the tissue in gum and sugar it may be useful to learn that a mucilage of dextrine is equally efficient. I find that by taking an aqueous solution of carbolic acid (about one in forty) and dissolving therein sufficient dextrine to make a thick syrup, a medium is obtained which is superior to the time-honoured gum and sugar in three ways.

It freezes so as to give a firm support without being too hard.

It keeps better than gum, in which several kinds of fungi are apt to grow.

It is *much cheaper*, costing only fourpence a pound, whilst powdered gum acacia costs five shillings.

Dextrine dissolves but slowly in cold water, so that a gentle heat is advisable when making the mucilage.

REPORTS OF CASES.

CASE OF INTERMITTENT HYDRONEPHROSIS.

BY ROBERT SAUNDBY, M.D. ED., F.R.C.P. LOND.
PHYSICIAN TO THE GENERAL HOSPITAL, BIRMINGHAM.

Jane —, aged 47, was admitted July 21st, 1888, complaining of a tumour in the right side of the abdomen, which she had noticed for two years.

Family History.—Father died of bronchitis, aged 66. Mother died aged 70, cause not known. Two brothers alive and healthy, none dead. Patient was married, seven children alive, four dead, one from typhoid fever, the others at about three months old from “consumption.” No history of any tumours in the family.

Previous History.—Had small-pox when 30 years of age; no other history of illness. Eleven years ago, about a week after a confinement, patient noticed a small tumour about the size of a hen’s egg just under the right costal arch. This lasted for about a day and nothing was felt of it for about three months; this happened about four times within the year. It was a little painful, but patient said it was not tender. Two years ago patient noticed a small tumour in the right iliac region; this was painful and tender. This swelling increased in size for about a fortnight, and then gradually disappeared, taking about a week to do so. Patient said it shifted its position, rising higher up in the abdomen. Patient was not menstruating at the time, but had been poorly about a week before. She had seen a doctor at the time who told her the swelling was caused by inflammation of the right ovary. She was “pulled down” in health after the swelling had disappeared.

The second time patient noticed the swelling was about six weeks after, and it lasted about a week, and after about a similar interval the tumour again reappeared. The recurrence took

place after this every three, four, or five weeks and lasted for about a week each time, until last October. For the next six months patient was only troubled three times. Since April patient had felt the tumour every two or three weeks. Eighteen months ago patient was in the Infirmary for seven months and she was then told the swelling was a "phantom tumour."

Patient had not noticed any connection between the appearance of the tumour and menstruation. She said the urine had been high coloured after the swelling had disappeared, and she thought she passed a small quantity of urine whilst the tumour was present. Did not remember having passed any blood in the urine.

Present Condition.—Patient was a healthy-looking, stout woman, who had not recently lost flesh, complaining of the above-mentioned tumour. The abdominal wall was lax, and on the right side a tumour was felt in the lumbar region. This was somewhat oval in shape and smooth, and reached forward to the middle line at the umbilicus. There was no notch to be felt; the tumour felt solid. The tumour was painful, but the pain did not radiate in any direction. It was tender on palpation; it did not move on respiration.

Alimentary System.—Tongue slightly furred, teeth fairly healthy; there was a bluish line at the edge of the gums. Appetite fair; no pain after food. Bowels regular. Liver dulness in the nipple line commenced at sixth rib.

Circulatory System.—Apex beat not marked; area of cardiac dulness not to be percussed out; sounds normal. Pulse regular; fair tension.

Respiratory System.—Sounds normal; no cough.

Urinary System.—Urine, 1010 acid; no blood. The test for albumen gave an opalescence. There was a slight flocculent deposit containing squamous epithelial cells and leucocytes.

July 22nd. This morning the tumour had shifted its position. From the front of abdomen the swelling was not so easily felt, but on bimanual examination was easily palpated as a smooth, rounded swelling, somewhat painful and tender. Patient only passed $2\frac{1}{2}$ oz. of urine after admission, 4-30 p.m.

23rd. The tumour could not be palpated this morning at all. Patient passed 52 oz. of urine yesterday ; this contained no blood.

23rd, later. It certainly seemed much smaller, and had sunk down into the lumbar fossa, but it was still easily felt on bi-manual palpation, and appeared larger than the closed fist.

24th Seemed still smaller this morning, and was in no way tender.

July 29th. Seen by Mr. Barling. Patient was then getting up.

Aug. 4th. Double the size this morning ; not so hard as it was originally.

5th. The tumour was about the same size ; patient had been passing less urine for the last three days.

7th. The swelling was less in size to-day.

Aug. 10th. I could feel no tumour at all, while the abdominal walls were so relaxed that it was very easy to feel all that could be felt in the abdomen.—R. S.

16th. Kept quite free from pain ; no tumour.

Sept. 29th. Was re-admitted to-day. She went out on the 10th of August, and since then had been fairly well ; twice she had felt a lump in the abdomen, but it had disappeared again on the next day. She had not at this time noticed an increase in the quantity of urine.

On the 27th she again felt the lump in the front of the abdomen.

On the 28th had a great deal of pain, and vomited frequently ; the pain was constantly present, but was worse at times, and then she vomited. To-day the pain was less, and she came up to the hospital. On examination, there was a large, rounded swelling in the right side of the front of abdomen ; this was moveable in the abdomen, and about the size of three fists. When patient was put under chloroform, with free relaxation of the muscles the tumour still remained, and the muscular wall of abdomen could be felt and pinched up in front of the tumour ; the swelling was very moveable, and

slipped underneath the costal arch. By palpation it was fixed in the right loin and an aspirating needle passed into it. About six ounces of blood-stained fluid was drawn off; this was bright red in colour. The fluid from the tumour gave the tests for urea with sod. hypobromite; after boiling there was 7 per cent. of urea. There was also a precipitate with mucin nitrate after phosphates had been precipitated by burin. Crystals of urea were also seen under the microscope after treating with strong nitric acid.

In coming round from the influence of the anæsthetic patient looked very bad, the face was very pale and pulse weak. In two or three hours she improved very much.

Sep. 30. She looked very well this morning, but did not sleep in the night, did not complain of any pain. Had passed 3 27 of urine since admission; this was deeply coloured with blood.

Oct. 1st. There was no tumour to-day, and nothing in site of kidney varying much in size from the normal organ. Urine was still blood-stained, *i.e.* smoky.

Oct. 2. Had had a good night; no pain now and no tumour to be felt. The urine, however, contained a good deal of brown deposit (blood-stained.)

Oct. 3. Urine still contained blood, but less each day. No pain.

Oct. 4. Urine of to-day contained no blood.

Oct. 5. No tumour to be felt; the urine contained no blood.

On her discharge the nature of the tumour was explained to her, and she was told to rest in the recumbent posture should it come back.

She went on very well, on the whole during the winter, and after some little delay, a well-fitting belt was made for her which she wears with a pad in the hypochondrium.

When last seen (June 18th) she had had no return of the swelling since March.

Remarks.—This case is published because it illustrates a condition which is not at all as well known to practitioners as it should be, and which must prove very puzzling to anyone unaware of its occurrence.

Hydronephrosis is always the result of an incomplete obstruction to the ureter; and in this case it is probable that the obstruction took the form of a bend or twist caused by slight mobility of the kidney, so that it was able to turn upon its horizontal axis.

This obstruction would be increased by the pressure of the distended kidney, but on the recumbent position being maintained the organ would gradually empty itself and return to its normal position.

The following is Mr. Thorneywork's description of the belt he has made:—"The Belt is made (as regards front and back parts) of material called lastin, such as used in the making of stays, the front to be so shaped to fit the figure with elastic webbing sides and to be laced down the back, a pad with good firm foundation of some pliable metal (say tin) well padded to press on the hypogastrium, fixed in the belt. Perinæum bands to be attached when required to keep belt from riding up."

1. CEREBRAL TUMOUR. 2. HEREDITARY CHOREA.

BY C. W. SUCKLING, M.D. LOND., M.R.C.P.
PHYSICIAN TO THE QUEEN'S HOSPITAL, BIRMINGHAM.

CEREBRAL TUMOUR.

Cerebral Tumour—headache; hemiplegia; delirium; coma; double optic neuritis—recovery.

A man aged 36, a gun engraver, was admitted into the Queen's Hospital under my care on June 26th this year. He complained of severe and persistent frontal headache, weakness of the right side, and of failing memory. He had been ill for two months before admission, his illness commencing with headache, and following this hemiplegia gradually supervened. There was no family history of disease, and no history of syphilis could be obtained from the patient. He had been a steady hard-working man, not addicted to drink. He had not received

any injury to his head. On admission it was found that his memory was very defective, and he soon became delirious and maniacal, and finally almost comatose. There was paresis of the right hand and foot and of the right side of the face, with ankle clonus on the right side. There was also well-marked double optic neuritis. The neuritis was most intense on the left side (on the opposite side to the hemiplegia). The movements of the right side were accompanied by well-marked tremor, indicating pressure on the motor tract. The patient remained in a very dull and stupid condition for some time. He could not recognise his friends and did not know where he was. He could not feed himself. He was quite unable to stand. The knee jerk was present on both sides but exaggerated on the right side, on which side there was ankle clonus. The temperature was normal and the urine healthy.

The patient was given iodide of potassium with half-drachm doses of the liq. hydrarg. perch. (B.P.). In all cases of optic neuritis these drugs should be freely given, for they certainly modify the intensity of the neuritis and tend to prevent blindness, even though the case may not be syphilitic. The iodide of potassium was increased till he took twenty grains three times a day. Under this treatment he gradually improved, the ankle clonus and hemiplegia disappeared, and the patient became brighter, his delusions and loss of memory gradually disappearing. At the present time (Aug. 19th) the patient is practically well; he can walk perfectly well, and is cheerful and intelligent; he does not complain of his head, and the optic neuritis has almost disappeared. The exact nature of this case is doubtful. The recovery under the influence of iodide of potassium and mercury points to syphilis, but there was no history of contraction of the disease, and no scar on the penis or elsewhere. The headache, moreover, was not nocturnal, though this is not essential. In a case I saw recently, a man, who ten years previously had contracted a chancre, was suffering from headache which was worse in the daytime, and was of a neuralgic character. I failed to relieve him with quinine and

gelseminum, but at once cured him with iodide of potassium and mercury.

Hemiplegia in a man under fifty years of age, in the absence of heart disease and Bright's disease, is strongly suggestive of syphilis. In this case the gradual onset of the symptoms, the presence of tremor on movement of the paretic limbs, and the complete recovery, all point to pressure upon the motor tract, and not to syphilitic arteritis. There were no convulsions, so that the central convolutions were not directly affected. It is most probable, considering the severity of the mental symptoms, that the left frontal lobe was the seat of gummatous mischief; that the motor fibres from the left motor convolutions were pressed upon. In this case no tenderness of the skull was present. The condition of stupor met with in this case is common in cerebral tumours situated anywhere in the brain, and it is usually associated with increased intra-cranial pressure.

It is important to remember that syphilis may cause coma. When staying recently at a seaside resort I was called to see a visitor who had been suddenly taken ill. I found that he was absolutely comatose and had been so for twelve hours. I found that though married for some years his wife had had no children, and that he had a scar on his penis. I excluded Bright's disease, alcoholism, epilepsy, diabetes, embolism, opium and other poisons. I suggested that perchloride of mercury should be injected under the skin frequently (Burroughs and Wellcome's tablets were used) and iodide of potassium given per rectum. I quite expected that the man would die, but I found on my return the following week that he was quite conscious. The doctor in attendance told me that he remained unconscious for three days after I saw him, but that as soon as he became salivated he began to notice a light and soon recovered.

The man called on me last week and is perfectly well except for a little occipital headache. He denies syphilis, but of course it is well known that the primary and secondary stages may be so mild that they may pass unnoticed even by the patient

himself. Anyway, the fact remains, that a man who was deeply comatose recovered under the free administration of mercury and iodide of potassium.

HEREDITARY CHOREA.—(Huntington's Chorea).

J. D., a man aged 39, a machinist, attended my out patient department at the Queen's Hospital suffering from irregular jerky movements of the arms and legs. He had been steady and hard working. He had suffered with jerky movements of the hands and feet for three or four years. He says he is always jerking and that he often stumbles. He is always "sniffing" from spasms of the diaphragm. The knee-jerk is normal, and there are no signs of disease beyond the movements. He has had rheumatism slightly in one shoulder, but the heart is unaffected. The shoulders are much affected, the tongue and face only slightly, and speech is not affected. He told me that the disease was in his family, and that his mother died aged 56 after suffering for sixteen years from the complaint. She became quite helpless and unable to feed herself some years before she died. He says that she died from bronchitis. He brought one of his sisters (aged 38) at my request. She had been affected for five years and cannot be trusted to wash dishes, etc., as she always drops them. He also brought his youngest daughter (about 12) who is also affected with the disease. Hereditary chorea was first described by Huntington of Long Island. It differs from ordinary chorea in that it is distinctly hereditary and not indirectly hereditary as is ordinary chorea. It affects adults chiefly, or it may come on in middle life. If a member of an affected family escapes, then the inheritance in his or her case ceases. It cannot skip a generation. At first the movements can be directed by the will, but the disease progresses and becomes quite involuntary until the patient is unable to walk, becomes bedridden and demented. Ordinary chorea gets well; hereditary chorea may remit or exacerbate, but never gets well.

PERISCOPE.

THERAPEUTICS.

BY ROBERT SAUNDEY, M.D. EDIN., F.R.C.P. LOND.

Lactose, or Milk Sugar, as a Diuretic.—Prof. Germain Sée (*Bull. de l'Acad. de Médecine*, June 11th, 1889) believes milk sugar is the best diuretic in cardiac dropsy, hence the value of the milk regimen in these cases. But the use of lactose is preferable to that of milk, as the dosage is more exact, and neither glycosuria nor azoturia result. The quantity used is fairly large—100 grammes ($3\frac{1}{3}$ oz.) of milk sugar daily, dissolved in two litres of water.

De la Lobéline dans la Thérapeutique de l'Asthme.—Dr. Silva Nunes.—The author of this pamphlet recommends lobéline in gradually increasing doses, from $\frac{1}{2}$ grain to 3 grains in pill, every two hours for the treatment of spasmodic asthma.

The Treatment of Purpura Hæmorrhagica by Nitrate of Silver. Poulet (*Bull. Gén. de Thérap.*, May 30th, 1889).—The author relates two cases of purpura hæmorrhagica: the first, a boy aged 12, had petechial eruption and epistaxis not controlled by perchloride of iron, acid infusion of roses, plugging the nostrils, and subcutaneous injection of ergotin. Nitrate of silver, in one-fifth grain doses twice a day, cured him in three or four days. The second case was even more severe, as there was hæmorrhage from the nose, stomach, and bowels, with petechiæ, deafness, blindness, and albuminuria. The hæmorrhages ceased after the first day's use of the remedy, and twelve pills effected a cure.

Diet in Bright's Disease.—Schreiber (*Berliner Klin. Wochenschrift*, No. 23, 1889) has shewn that eggs do not cause an increase of albumen in Bright's disease, and in this he is supported by Leyden and Oertel. (The reporter agrees with this, and has permitted the use of eggs in his practice for several years).

Uterine Medicines.—Mr. Naunton W. Davies (*The Lancet*, June 8th, 1889) says it can safely be said that no medicines are so disappointing in their action as those which are supposed to act upon the uterus and its appendages, and influence the menstrual habit in women. These remedies, so formidable in number, look very imposing when the long list is scanned; but is there not something in the multitudinous array suggestive of conscious weakness—of individual feebleness hidden in a crowd? Let me instance the following:—Borax, cantharidis, ergot, aconite, pulsatilla, caulophyllin, permanganate of potash or soda, peroxide of manganese, santonin, rue, savin, cimcifuga rac., sanguinaria, megarthes, pot. iodi, apiol, iron, and the various cathartics. Now, of all these remedies, have any of them shewn a disposition to act consistently when given to different patients apparently suffering from identical troubles? It would be affectation to pretend that they have generally any such characteristic.

Of the long list of remedies noticed, there remain caulophyllin and pulsatilla, and of these much can be said of a favourable nature. Caulophyllin, the resinoid prepared from caulophyllum thalictoides, known in America under the various names of squaw root, pappoose root, and blue berry, has been recognised in that country as a valuable therapeutic agent from very early times. There seems to be a general agreement amongst those who have studied its action that its effect is chiefly felt by those motor nerves which are connected sympathetically with the menstrual organs, and that this action is of a sedative character, allaying that irritable condition of the generative system which so often lies at the root of functional irregularities. As a remedy in these derangements, in "irritable neurotics," especially when they are marked by disturbance in the sacral plexus, it has undoubtedly acquired a sounder reputation than most of its competitors, and deserves a permanent place in the select circle of approved remedies. But its action, although often favourable when administered alone, is much more reliable when given in combination with pulsatilla (anemone pulsatilla, pasque flower), which has long been known as a popular and effective remedy in uterine

functional derangements. A few years ago it was well spoken of by Dr. Brunton and Dr. Gerard Smith as a sedative agent of much power in the treatment of inflammatory states of the testicle and spermatic cord, producing such rapid abatement of pain as to supersede even the necessity for morphine. As pulsatilla increases the beneficial action of caulophyllin, so the latter increases the action of the former, and it is therefore when they are both combined that we get the most perfect emmenagogue that our present state of knowledge has yet suggested.

My own experience in the use of liq. caulophyllin et pulsatilla is most encouraging; and, while I urge with much confidence its use by my *confrères*, I would, at the same time, beg them to make their experience known.

The preparation used by Mr. Naunton W. Davies was, we understand, that prepared by Oppenheimer Bros. and Co.

Counter-Irritation in Whooping Cough.—Inglott (*Brit. Med. Jour.*, 1889, i., 885) says that during the last year whooping-cough was very prevalent in Malta, and was very often of a severe type. He was called to treat a good many cases of the disease, and tried the administration of several medicines, as bromides of potash, valerian, assafoetida, morphine, belladonna, etc., and though he carefully watched their effects, he could not see that any of them proved of much use. He was then led to try the application of strong counter-irritation over the pneumogastric nerves, between the mastoid process and the angle of the lower jaw. The results were very satisfactory. In one case, which he relates as an example, a boy of twelve years suffered from such violent paroxysms that blood came from his eyes and mouth, and a fatal termination was feared. Various remedies, including morphine hypodermatically, had proved useless, but the application of counter-irritation on both sides of the neck acted like magic, as in from four to five days the patient recovered, and was able to go to school.

The Treatment of Tabes by Suspension. Bernhardt (*Deutsch. med. Wochenschr.*, 1889, No. 21) has, during the last quarter of a year, treated nineteen patients, with about 220 suspensions.

Most of these were tabetic patients, some of whom had received more than 20 suspensions, others between 15 and 20. By all, even the very ataxic, the treatment was well borne. Apart from the beneficial psychic effect on the patient of a new method of treatment, there was an indubitable improvement in nearly every case. Some, it is true, stated that they felt no better, but in the majority Bernhardt recorded amelioration of the lancinating pains, increased ability to walk, diminution of the ataxia, increased vesicle power, in some cases a decided influence on the lost sexual power, and in nearly all an improvement in the general condition. He warns, however, against viewing this plan of treatment as a panacea for such a chronic disease as tabes is, and says that it has not yet been used long enough to permit of a final judgment on its value. It is certain, however, that it is a valuable means, though not for the healing of tabes, yet for the amelioration of many of the most distressing symptoms of the disease.

The Treatment of Empyema by a Valvular Rubber Tube Hermetically Sealed to the Chest.—W. Williams (*Brit. Med. Jour.*, May 18th, 1889) speaks of the difficulty usually encountered in treating empyema, this consisting in the fact that the cure is left almost entirely to the retraction of the chest wall. It is only after the external wound closes and the atmospheric pressure is excluded that there can be any re-expansion of the side of the chest, carrying the lung outward again; if, after this length of time, it is still able to expand at all. Children recover so much more readily because the chest wall rapidly falls in, the opening closes, and the chest then again expands and attains its normal condition before the lung has had time to form firm adhesions.

To aid in the recovery from the disease in adults, the author has devised a valvular tube, by which the atmospheric pressure from the external surface of the lung is removed, while the external opening still remains. The method consists simply in passing a rubber tube into the chest through a plate which it fits air-tight, the plate itself being hermetically sealed to the

chest wall. To the free end of the drainage tube is affixed a valve which opens outward. As the valve acts best in a liquid, this end of the tube is placed, when in use, in a bottle containing some antiseptic solution. Once or twice each day the valve is removed and the chest washed in order to thin the pus.

By means of this mechanism the side of a chest is converted into the cylinder of a pump, of which the diaphragm is the piston. There are two exit openings, the trachea and the rubber tube, but only one entrance opening, the trachea. Each time that the diaphragm ascends, the air of the lung and the pus of the pleural cavity are expelled; but each time it descends, air can enter the lung only. The lung must therefore necessarily be expanded in order that its tissue may take the place of the pus which has been expelled. During the washings out of the chest, the lung of course collapses temporarily somewhat, but expands at once on re-adjusting the valve.

The author reports three cases illustrating the success of this method. In the first case there was found considerable difficulty in finally withdrawing the tube, since, when taken out, the lung at once collapsed and pus began again to be discharged. It was then found that by very gradually shortening the portion projecting into the chest, the opening healed from the inside after it. The other two cases were consequently treated in the same way, and without difficulty arising.

DISEASES OF THE SKIN.

BY R. M. SIMON, B.A., M.D. CANTAB., M.R.C.P. LOND.

A Clinical Study of Alopecia Areata and its Treatment.—L. Duncan Bulkley, M.D. (*The Medical Record*, March 2nd, 1889).—The author found in 12,725 cases of skin disease, 119 of alopecia areata, a percentage of 0.94, and of these only 32 occurred in public practice, or a percentage of 0.45; whereas in the higher grades of society, among which his private practice lay, he found a percentage of 1.54. He strongly favours the nervous origin of the disease as opposed to the parasitic, and

argues its relatively more frequent occurrence among the well-to-do as a strong point in favour of this view. In support of his opinion he shews that the disease occurs nearly twice as often in males as in females, and most frequently between the ages of 20 and 30; whereas in females it occurs with relatively greatest frequency in the first decade; and this he attributes to the greater delicacy of the female nervous organism at this period of life. As a negative argument in favour of his view, he cites the fact that he never has succeeded in finding any parasite, nor any evidence of the occurrence of the disease in two members of the same family.

He recommends veratria in an ointment (5 to 10 gr. to the ounce) to be applied locally, and says croton oil, strong carbohc acid, acetum cantharidis, capsicum, and other stimulating applications may be used with advantage. He relies mainly, however, in pursuance of his theory as to etiology, on hygienic treatment. Most patients, he says, shew some deviation from a normal standard of health. He recommends fats and phosphates in the dietary, especially milk, cream, and whole-meal bread; while as medicines he uses strychnia, phosphoric acid, and cod-liver oil.

The Relations of the Seborrhæic Processes to some other Affections of the Skin.—H. G. Brooke, M.B. (*British Journal of Dermatology*, June, 1889).—Under the influence of Dr. Unna's articles on eczema seborrhæicum, Dr. Brooke has made and recorded observations on the coincidence of seborrhœa with other diseases of the skin. He agrees with Unna in thinking that typical eczema frequently coincides with seborrhœa, but objects to Unna's name of "eczema seborrhæicum" as being properly inclusive of nearly all the cases of seborrhœa. His argument that the long duration of these cases if due to eczema ought to be evidenced by thickening of the cutis seems to be cogent, and he cites cases in which the disproportion between the eczematous and seborrhœic manifestations plainly point to a double rather than a single origin. He suggests that many so-called cases of psoriasis are really seborrhœa, and points out

similarities as regards their situation and course. In rosacea, especially, he believes the influence of seborrhœa to be most marked, and has found seborrhœa of the scalp and face shew its existence markedly in most cases of the disease. Whenever seborrhœa exists anywhere on the body, the scalp is almost always affected, and shows the disease in a greasy scurfiness. This may vary in extent from "dandruff" to the formation of a thick mass which looks as if formed of small blocks of half-dried cheese. It occurs commonly also on the eyebrows and the middle portion of the face, about the angles of the mouth, and in the whiskers. The condition described by American authors as seborrhœa corporis—which is met with most commonly over the sternum and between the shoulders, and consists in an outbreak of papular, nummular, or circinate patches, or gyrate lines made up of a connected series of fragments of circles more or less covered with dull-coloured greasy scales—he regards as a very different affection. He considers the seborrhœa to be due to a dermatitis caused by the presence of one or possibly several micro-organisms, leading to a specific irritation of the fat-forming functions of the skin.

Trichomycosis Nodosa.—Dr. Patterson (*Dublin Journal of Medical Science*, May, 1888) has found short rods in the hard nodes attached to the affected hairs. The bacilli were about one quarter the diameter of a red blood corpuscle in length, and their breadth was about half or one-third of their length. They were non-mobile, and were sometimes joined into twos or threes, but rarely formed longer filaments. They stained well with aniline dyes, and were not found in the skin or hair follicles. Dr. Walter Smith shewed hairs from a similar case, also proving the presence of bacilli.

Further Researches on the Treatment of Tinea Tonsurans.—A. J. Harrison, M.B. Lond.—This is a paper read before the British Medical Association at Glasgow last year, and indicates a method which Dr. Harrison believes to be simpler and more efficacious than the use of a caustic alkali in solution, followed by the application of a parasiticide. He makes the following

ointment :—℞. Potassæ fusæ gr. ix., acid carbolic gr. xxiv., lanolin, oil of cocoa nut āā ʒ ss. M. ft. unguentum. A small portion of the ointment is to be rubbed on the affected parts night and morning. [Numerous cases treated by this method have not, unfortunately, proved very successful.—R. M. S.]

Lupus Vulgaris and its Relation to Tuberculosis.—H. G. Barling, F.R.C.S.—Mr. Barling records the results of the examination of lupus tissue removed by excision from eight cases of the disease. He made a careful examination of about twenty sections in each case, and in each instance found well-marked tubercle structure. In three cases he found bacilli, and attributes his failure to do so in the rest to insufficient examination. He regards the disease as tubercle of the skin, and suggests as a reason for its slower course as compared with other tubercular affections, the probability that the skin is inoculated directly with bacilli, and not through the circulation. If this reason be accepted he argues further that the low temperature of the skin is a further cause of the chronicity of lupus, as the tubercle-bacillus needs for luxuriant growth a temperature of about 90° F. In support of his contention he draws attention to the experiments of Eve, who was able to induce with the same lupus tissue genuine lupus in rabbits and tuberculosis in guinea pigs. The relationship of tuberculosis and lupus was discussed by the American Dermatological Association in 1888, and the consensus of opinion was greatly in favour of their close connexion.

Heitzmann on the Value of Salicylic Acid in the Treatment of Diseases of the Skin (Transactions of the American Dermatological Association, 1888).—The discussion which followed the paper supported its main contention, namely, that salicylic acid was especially useful as a keratolytic agent and as an antiseptic. Cases of hyperidrosis, whether of the feet or axillæ, are especially benefited by its use. A one per cent. mixture in tallow is the regulation application for the soldiers' feet in the German army, and a six per cent. powder of the acid can be used with advantage for the axillæ. Other brilliant examples of its value are exhibited by its influence on callosities, for which the pure drug

may be used, and on boils, for which Heitzmann used a six per cent. paste. He uses it in four ways :—1. As a powder, either pure or mixed with oxide of zinc and starch. 2. As a plaster or mull, the vehicle being diachylon and soap plaster. 3. As a paste, prepared with cold-cream and additional starch and oxide of zinc. 4. As a solution made in alcohol of three per cent. strength and diluted with water.

SURGERY.

BY GILBERT BARLING, B.S., F.R.C.S.

Simultaneous Ligature of the Common Carotid and Subclavian for Aneurism of the Ascending Aorta.—Meriwether (*Annals of Surgery*, May, 1889).—The patient, a woman aged 35, had suffered from pain in the upper left thorax for two or three years, and when walking up a hill was seized with short, sharp, sudden pain in the entire upper thorax, with faintness and palpitation. Examination revealed pulsation at the root of the neck only on lying down, and in the second right intercostal space on sitting up; a thrill was felt which was most distinct over a space three inches in diameter, and extending upwards from the second right interspace. A well-marked aneurismal bruit was heard with the greatest distinctness in the second right interspace close to the sternum, and there was tenderness and dullness about the sternum and to its right side. The pupil of the right eye was contracted, and there was buzzing in the right ear. Later on, a mitral regurgitant and an aortic stenotic murmur were heard. As the aneurism was evidently extending, the right carotid and subclavian arteries were ligatured in the usual situations with catgut. The operations were carried out without difficulty, the time occupied being an hour and a half, and the wounds healed well. The patient was allowed up on the twelfth day, leaving the hospital on the seventeenth, and on the twenty-seventh day no pulsation could be felt, but a slight systolic bruit could still be heard over the ascending aorta, being lost in the aortic stenotic murmur.

Aneurism of the External Iliac Cured by Digital and Instrumental Compression.—Barker (*Brit. Med. Jour.*, Dec. 22nd, 1888).—The patient, a male aged 48, suffered from an aneurism about five inches in its vertical diameter. Pulsation could be stopped by the point of the finger pressing over the line of the external iliac artery, but "below" the upper border of the aneurism, suggesting that the latter was sacculated; there was some œdema of the limb. Digital compression between the bifurcation of the aorta and the spot above referred to was tried for ten hours on April 13th, for five and a half hours on the 15th, for six hours on the 18th, each time with slight improvement. On the 19th Carte's tourniquet was used for three hours, and on the following day preparations were made for ligaturing. After the skin incision was made, the patient gave a brisk movement with his leg, and immediately afterwards all pulsation had disappeared from the tumour, which henceforth became steadily consolidated. Mr. Barker believes that during the treatment by compression some clot was formed, and that the struggling whilst the anæsthetic was being administered detached some of this clot and plugged the lower orifice of the aneurism.

Pyæmic Pericarditis successfully treated by aspiration and drainage.—Dickinson (*Clin. Soc.*, Nov. 23, 1888).—The patient, a boy aged 10, was admitted with evidence of effusion into the left pleura and the pericardium, with dyspnœa, blueness and irregularity of pulse; all these had followed a large gluteal abscess. On June 18th and 23rd over thirty ounces of serum were removed from the pleura by aspiration; on the 25th and 28th this was repeated but with little relief to the symptoms; so on the 30th the pericardium was aspirated, an ounce only of pus being drawn off; and on July 8th and 15th respectively twelve and nineteen ounces of pus were drawn off. On July 22nd, the distressing symptoms having returned, an incision was made into the pericardium and a drainage tube inserted and retained until the cavity had filled up. Six weeks later only a small cicatrix, moving with each beat of the heart, showed where the incision

was made. The point selected for the aspiration and incision of the pericardium was the fifth right interspace close to the sternum.

Mr. Parker related at the same meeting a case of Pyo-pericarditis with Osteo-myelitis for which drainage was resorted to. The patient, a girl aged 9, was in the fifth week of her bone trouble, when extensive pericarditis supervened. This was first relieved by tapping but it was subsequently found necessary to incise and drain the pericardium. Very thick pus being found it was thought advisable to remove it by irrigation, and whilst this was being carried out the child died. Mr. Parker suggested that the opening in these cases should be made in the fourth left interspace close to the sternum.

Two Cases of Gangrene of the Lung; Operation and Cure.—Shewen and Hawkins (*Australasian Med. Gaz.*, April, 1889).—

Case 1.—Male, aged 28, was seized six months before admission with vomiting and diarrhoea, and a cough with expectoration of blood and matter. When admitted, he was very feeble and anæmic, much troubled with cough, which brought up blood and pus, and there was great dyspnoea; the pulse was quick, temperature 101·5, respiration 42; the right chest posteriorly quite dull in lower half, with absence of breath-sounds and vocal fremitus. Pus being found with an exploratory syringe, the chest was opened by the removal of two inches of a rib just below the angle of the scapula. The pleura was much thickened, and no separation between the two layers could be recognised. A cavity containing about three-quarters of a pint of thick, dark-grey pus was evacuated, and the walls were found by the finger to be ragged and carnified. Drainage tubes were inserted, and subsequently the cavity was washed out with iodine solution. On one occasion this produced some distress, and the patient coughed up a good deal of bright blood; but on the whole he made a rapid and uneventful recovery. Dr. Shewen believed that the patient suffered from chronic pneumonia, which resulted in a cavity of non-tubercular character.

Case 2.—A male, aged 37, two months before admission

caught cold, had rigors and a very severe cough, and took to his bed. On admission, there was constant cough, with profuse muco-purulent expectoration, dulness at right base posteriorly, faint tubular breathing, increased vocal resonance, and fremitus with some friction. A month later it was found that a cavity which existed at the angle of the scapula had filled up, the cavernous breathing had disappeared, the dulness had become absolute, there was scarcely any vocal fremitus, and no vocal resonance. An exploratory needle found stinking pus when it was introduced between the ninth and tenth ribs at the angle of the scapula. The chest was opened by the removal of two inches of the ninth rib, without difficulty, the pleural layers being adherent and the abscess being immediately beneath the pleura. About a pint of very stinking pus was evacuated; and on attempting to irrigate the cavity with boro-glyceride, the patient became very blue and the pulse failed, so the irrigation was given up and two large drainage tubes were left in. The discharge varied much; sometimes it would be little and free from odour, and then it would become suddenly profuse and stinking, and it evidently got retained somewhere. The cavity, however, gradually contracted, and about three weeks after the operation the patient got up, the discharge and sputum being still very offensive on violent coughing. A month later, when the cavity was reduced to a mere canal, the patient suddenly became much worse, expectoration being profuse, and almost the whole of the right axillary region became dull on percussion, with faint bronchial breathing, and another patch of gangrene was feared; but if this were so, it did not empty through the wound, for the discharge kept sweet, but the sputum again became most offensive. Three weeks later there was but little expectoration, and that was free from odour, and the patient from this time improved rapidly. When this communication was made there was still a sinus in the chest wall.

Gangrenous Abscess of Lung; Drainage; Recovery.—Smith (*Lancet*, July 20th, 1889).—A woman, aged 39, suffered from feverishness, malaise, and cough for a fortnight, and then

became worse, with severe pain in her chest, expectoration of offensive sputum, and faintness and dyspnoea on sitting up in bed. The temperature ranged between 101° and 103° ; the cough came on in violent paroxysms, and expectoration was slight in amount and difficult to get rid of. There was dulness below the point of the right scapula, not very marked and not extending quite to the base; around the dull area respiratory sounds were abolished, except on coughing, when moist sounds were indistinctly heard. Later, expectoration became profuse, and gurgling could occasionally be heard below the right scapula with loud cavernous cough sounds. Her general condition was extremely bad. An aspirator, inserted three inches, failed to find pus; but on making an incision in its track and boring inwards with sinus forceps, a cavity was reached, into which a drainage tube was passed. Not more than an ounce of pus escaped, but rapid improvement followed the operation, the discharge and the expectoration lost their foetor, and in less than a month the patient was walking about, though still with a tube in the wound.

Empyema.—In the *Boston Medical and Surgical Journal*, Jan. 3, 1889, Dr. Nichols records six cases of Empyema, all of which were in the first instance treated by aspiration. Three of the patients recovered without incision of the chest, but two of these were children aged respectively nine and seven years, and in each of them the empyema eventually opened through the lung. The third recovery after aspiration only was remarkable. A stout female, aged 34, suffered from right pneumonia, and in the course of this premature labour came on. The patient was restless and delirious, dyspnoea was severe, the pulse rapid and the temperature high, and 80 ounces of odourless pus were removed by aspiration. The lung expanded somewhat and the dyspnoea was relieved, but fever and delirium continued. Four days later aspiration was again performed, and five times subsequently to this, 367 ounces of pus being removed at the various operations. The patient made a good recovery at the end of fourteen weeks with but slight sinking of the walls of the chest.

One other patient died seven days after the first aspiration, probably from peritonitis due to the empyema finding its way into the abdomen; the perforation did not arise until six days after the aspiration. The two remaining patients were both treated by incision after repeated aspirations and both recovered.

Removal of Carcinoma of Rectum by Sacro-coccygeal Method.—Ochsner (*Western Medical Reporter*, June, 1889).—The patient, a male aged 31, had suffered from symptoms of rectal trouble for two years, but his general health was pretty good. Under ether a tumour was felt in the rectum, which included the entire circumference of the bowel, and which was situated pretty high up (exact distance not stated). To completely empty the intestine, during two weeks preceding operation repeated doses of castor oil were administered by the mouth, and copious enemata, and the patient was kept on a diet of milk, eggs, and broth. Kruske's incision appears to have been followed with slight modification, but the exact amount of the sacrum removed is not mentioned. The upper end of the intestine was drawn down and stitched to the lower. An hour and a half was consumed by the operation, but there was good reaction afterwards. Seven days later fæces appeared in the wound, some of the intestinal sutures having evidently given way, and in a few days nearly all the fæces came by the wound. This condition, however, soon improved, until only a fistulous opening was left, which could be effectively controlled by the pressure of a pad of cotton so that neither gas nor fæces escaped, and in eight weeks the patient could walk about. It is recommended to follow Kruske's recent modification in dealing with the intestine for the future. By this plan the lower or anal portion of the gut is split right through behind, and then its upper margin attached to the lower margin of the gut above, the wound behind being left to granulate. Less strain is thus thrown on the sutures, and there is less chance of infection from the fæcal matter.

Pre-Cancerous Conditions of the Tongue.—Butlin (*Illust. Med. News*, March, 1889).—Mr. Butlin here relates the experience

he has gained since the publication of his book on the tongue. He estimates that in about 70 per cent. of patients he has seen with cancer of the tongue, the growth has been preceded by some form of leucoma or chronic superficial glossitis. It is doubtful which of the chronic inflammatory conditions is most likely to lead to cancer, but probably that which was originally known as "ichthyosis," in which the leucomatous areas are very thick and warty, is most dangerous. In a large number of cases a wart appears to have been the starting point of carcinoma. Such warts are "prominent, rounded or oval in shape, sharply defined, grey or reddish grey in colour, firm, painless, and at first not ulcerated. They are not indurated, and do not dip into the substance of the tongue. With regard to treatment, if the condition is one of "ichthyosis," something midway between leucoma and warty growth, this should be removed when still of small extent by cutting deeply into the tongue, so as to enclose an ellipse, the surface being sutured. Conditions of ordinary leucoma and chronic superficial glossitis are so frequent, often so extensive and so much less dangerous, that it does not appear reasonable to remove them. When, however, a warty growth forms on these tongues, it seems desirable to remove the *whole* of the diseased area rather than to be content with removing the warty formation with just the surrounding margin. Two very interesting cases bearing upon this point are quoted. Mr. Butlin speaks favourably of the administration of arsenic in these various chronic conditions of the surface of the tongue.

OBSTETRICS.

BY ALFRED HARVEY, M.B.

The importance of External Pelvic Measurements in Obstetric Practice.—Dr. Pershing (*International Journal of Medical Science*, Feb., 1889) emphasises the valuable information that is to be gained as to the shape and size of the pelvis by external measurement alone. The important measurements are the external conjugate; the distance between the anterior superior iliac spines, and between the iliac crests; and the distance between the posterior superior iliac spines. The average difference between the true conjugate and the external conjugate is 3'75 in., and though there is some variation from this yet the following conclusions are justified:—If the external conjugate is less than $6\frac{1}{2}$ in., shortening of the true conjugate is certain and likely to be considerable; from $6\frac{1}{2}$ to $7\frac{3}{8}$ shortening is extremely probable; from $7\frac{3}{8}$ to $7\frac{7}{8}$ the chances are even; from $7\frac{7}{8}$ to $8\frac{1}{2}$ shortening is highly improbable; and with any higher external conjugate than this, contraction may be safely excluded.

The distance between the iliac spines is with very slight variation just twice the transverse; and the relation between this measurement and that between the iliac crests gives valuable information as to the conjugate; the less the excess of the latter measure over the former the more the probability of flattening, and when it approaches to within half an inch or falls below it, shortening of the conjugate is certain and probably considerable.

The distance between the posterior superior iliac spines averages $3\frac{1}{2}$ inches; in generally contracted pelvis it is diminished, but bears the normal ratio to the measurement between the anterior spines. In flat pelvis it is both absolutely and relatively smaller; this is still more marked in flat rachitic, kyphotic, and obliquely contracted pelvis. Pershing recommends that these measurements should be made in every pregnant woman as early as possible, and if they lead to the sus-

picion of any pelvic deformity, that then careful internal examination should be made.

A Second Cæsarian Section in the same Woman—Skutsch (*Arch. für Gyn.*, 34, 1) reports a case of Cæsarian section performed a second time in the Clinic at Jena for rachitic pelvis. On opening the abdomen, the uterine and abdominal walls were found to be adherent; the uterus was also adherent both to mesentery and bladder. There were also adhesions between the mesentery, transverse colon, and abdominal wall. The uterus had to be opened *in situ*, an elastic ligature being used to control hæmorrhage. Notwithstanding the extensive adhesion, and though she had albuminuria, she made a good recovery. There were twin children, both of whom lived.

Inversion of the Uterus due to Shortness of the Umbilical Cord. Mr. W. Hutchinson, of Newmarket, describes (*Lancet*, 1889, i., 837) a case of complete inversion of the uterus in a primipare æt. 28. Inversion occurred immediately upon the birth of the child, and so could not have been due to the usually assigned causes. The accident was accompanied by profuse hæmorrhage; but the uterus was replaced manually, and the patient made an uninterrupted recovery. Mr. Hutchinson concludes: "I think there is no doubt as to the cause, namely, shortness of the cord (nine inches) and the weak and enfeebled state of the uterus consequent upon prolonged labour in a delicate woman."

The Forceps and Fœtal Mortality.—From the last annual report of the Marburg Obstetric Clinic we learn that the forceps were employed in less than one per cent. of all cases, three times in 308 cases; while the deaths and still-births amounted to no less than 13·4 per cent. The question arises, Would not an earlier use of forceps have materially lessened the fœtal mortality?

Acute Meningitis during Pregnancy.—Chambreleut reports (*Ann. de Gyn.*, Feb., 1889) seven cases of acute meningitis, some of them tubercular, occurring during pregnancy. In six cases pregnancy was terminated artificially with birth of living

children, in the seventh delivery was spontaneous before the death of the mother. Microscopical examination of foetal tissues with inoculation experiments on animals failed in every case to reveal foetal tubercle. Chambrelent's practical deduction from these cases is that, in the interest of the child, labour should be invariably induced in cases of meningitis, whether tubercular or not, during pregnancy as early as the seventh month. As regards the mother, prognosis is without exception bad.

The Pathology of Adherent Placenta.—(Berry Hart, *Edin. Med. Jour.*, March, 1889).—Dr. Berry Hart has recently had the opportunity of examining microscopically two specimens of inverted uterus with placenta *in situ*; in the one specimen the placenta was normally attached, in the other it was very adherent. In the specimen where the relations were normal there were between the villi and uterine wall the following layers:—

1. Where serotina and villi meet a dense band of tissue which stains more deeply and is apparently formed of villi and serotinal tissue. Owing to its density its structure is difficult to make out, but it is probably connective tissue. Occasionally one sees in it cells of the large-celled layer.

2. *The large-celled layer.*—Sharply differentiated from the former; made up of large endothelial-like cells with nucleus and nucleolus. Scattered through this layer are many nuclei, which stain deeply with logwood.

3. *The spongy layer.*—A broad, well-defined layer with large spaces lined by perfect columnar epithelium.

4. A much less meshy layer lying on the uterine muscle. The contour of the muscle is not flat but toothed.

In the sections of adherent placenta the same structures could be made out, but the spongy layer was much less marked, the spaces were invariably smaller, and *in none could epithelium be detected.* There was no evidence of chronic inflammation. The cause of non-separation depended on defective development or pathological condition of the layer where the normal plane of separation lies.

Dr. Hart suggests a clinical classification of cases of adherent placenta.

1. Cases of total adhesion unaccompanied by hæmorrhage, where separation manually is easy, and is accomplished in the normal plane of separation.

2. Cases of partial adhesion, high up in uterus, where the placenta is separated at its lower part; often accompanied by severe hæmorrhage. The upper adhesion is extensive.

3. Cases of adhesion low down—the placenta being separated above—not usually accompanied by hæmorrhage.

4. Cases of very perfect adhesion, usually accompanied by little hæmorrhage, but where separation is effected manually with great difficulty. The placenta is usually separated where the *villi* and *serotina* meet, and thus the uterus is left with the usual deciduous layer of *serotina* still adherent, and often with portions of the foetal placenta still attached.

The second class is most immediately serious; the fourth gives rise to most difficulty, and, as a layer of dead tissue is left behind, has most risk of septic infection.

REVIEWS.

AN ESSAY ON ASPHYXIA (APNŒA).*

It might be a question for the curious to determine whether Dr. George Johnson owes his reputation most to the fierceness of his polemics, the ingenuities of his theories, or the justice of his pathological observations. After more than forty years of strife, at an age that must equal or exceed the psalmist's allotted span, this veteran boldly enters the lists against the whole school of modern physiology and challenges Burdon Sanderson, Power, Michael Foster, Gerald Yeo, and Landois and Stirling, to defend themselves or admit they are wrong in their descriptions of the state of the heart in asphyxia and the cause of the failure of the circulation.

Put very briefly the dispute is as follows :—All authors down to modern times described the heart in asphyxia as showing *post mortem* distension of the right side with emptiness of the left, but in 1875 Burdon Sanderson, describing what could be seen in the opened thorax of a living animal suffocated by stopping artificial respiration, stated that both sides of the heart are gorged with blood after death, and he is followed in this statement by the authorities already named, while the *post mortem* emptiness of the left side, usually seen, is explained by the force of the *rigor mortis* of the left ventricle expelling its contents.

In opposition to these statements he quotes the account of the appearances in the chest of a man examined four hours after execution by hanging, where the left side was quite empty and the right gorged with blood ; but it is evident that death from hanging is not death from asphyxia, but from cerebral anæmia, or from injury to the cervical spine or medulla. But he also quotes an experiment of his own, made in 1867, where a dog was killed by a ligature on the trachea, and examined as

* An Essay on Asphyxia (Apnœa). By George Johnson, M.D. Lond., F.R.C.P., F.R.S., London : J. and A. Churchill. 1889.

soon as it had ceased to move ; and also an experiment performed by Dr. Rutherford in 1873, in which a dog was curatised, the thorax opened, and artificial respiration suspended. In the former the left side of the heart was empty, the right being engorged ; in the latter, the systemic blood pressure at first rose with corresponding distension of the left side cavities. Then, as the blood pressure sank, these cavities emptied, and the veins and right side of the heart became full, and remained so till the animal died. Thus there is clear and diametrical opposition in the statements of the author and his opponents, which he endeavours to get over by suggesting that they used too much curare, so as to paralyse the vaso-motor nerves. Into this dispute we can hardly enter, leaving it for those concerned to defend themselves ; but we may add a few words about the author's theory. This had better be given in his own words. "Artificial respiration being suspended, unoxygenised black blood at first passes freely to the left side of the heart and the systemic arteries and capillaries. Arrived there, either by its direct stimulation of the muscular arterioles or, more probably, by a reflex influence through the vaso-motor nerves and centre, the arterioles are excited to contract, and by this action . . . the blood pressure in the arterial trunks is increased, and the left cavities of the heart become distended and dilated. . . . The force which distends the left cavities in the first stage of apnoea is derived from the contraction of the right ventricle, and is thence transmitted through the pulmonary vessels. The circulation through the systemic arterioles is impeded but not arrested ; some black blood passes through the capillaries, and this black blood becoming more and more entirely disorganised, arrives through the veins at the right side of the heart and the pulmonary vessels. Reaching the pulmonary arterioles and capillaries, it incites there the same arterial contraction and resistance as had before occurred in the systemic vessels." It is to this arrest of the pulmonary circulation that Dr. Johnson ascribes death from asphyxia ; no blood, or very little, can reach the left side of the heart, so that the systemic circulation fails.

The points in this theory that require attention are (1) that the initial rise of blood pressure is due to a local stimulation of the vessels either of the muscular coats directly, or reflexly through the vaso-motor nerves and centre, and (2) that this contraction only occurs in parts reached by the impure blood, that in the lungs being delayed till the blood gets there; (3) that the obstruction to the circulation in the lungs is more complete when it does occur than in the systemic circulation when the passage of blood is "impeded but not arrested."

The first point is not in agreement with physiological or pathological fact; the presence of unoxygenised blood in the circulation of a part of the body other than the vaso-motor centre does not cause a local or general rise of blood pressure, while with reference to this and the second point it has been shewn that if oxygenised blood is supplied to the vaso-motor centre, the circulation of unoxygenised blood throughout the rest of the body causes no rise of blood pressure. It is therefore entirely a question of the supply of impure blood to the vaso-motor centre in the medulla, and when this is stimulated the effect is general throughout the body, causing a rise of blood pressure, which is however *less in the pulmonary artery than elsewhere*.—(Lichtheim, quoted by Stirling.)

But after the vaso-motor centre has been stimulated for some time it becomes paralysed, and the vaso-constrictor muscles relax. This fact Dr. Johnson ignores, for it is precisely at this time that he imagines the vaso-motor nerves in the lung (the existence of which has been long doubted, and which are certainly few and so feeble as to affect only very slightly the pressure in the pulmonary artery) are acting with such vigour as to produce a spasm sufficient to cut off the supply of blood to the pulmonary capillaries, and thence to the left side of the heart.

It is this assumed alternating action of the vaso-motor centre which is the weak point in the author's theory. It is not borne out by any authoritative physiological observations, in the absence of which we cannot recommend our readers to accept

the conclusions of this essay, though they are supported by much ingenious reasoning. We trust that some of the physiologists whose facts and teachings are impugned in this essay will take an early opportunity of replying to it.

ESSAYS UPON HEREDITY AND KINDRED
BIOLOGICAL PROBLEMS.*

NATURAL INHERITANCE.†

HEREDITY.‡

THE three works whose titles are given above all deal with the question of Heredity, of late become so prominent a subject of biological investigation. They treat of it, however, from somewhat different aspects and with various measures of success. Professor Weismann's essays, which have appeared in German during the past few years, and of most of which abstracts have been given in the pages of *Nature*, have excited the greatest interest and attention. It is impossible here to give any sketch even of the author's views, but perhaps the most important and certainly the one over which most controversy has arisen, is his theory that characters acquired by the parents are non-transmissible to the offspring. By this is not meant disease, but such peculiarities as are due to use and disuse, climatic and other influences which may be summed up in the word environment. As most writers have awarded a large share of importance to such influences in the causation of varieties and the development of species, it is at once obvious how far-reaching the effects of

* Essays upon Heredity and Kindred Biological Problems. By Dr. August Weismann. Translated by E. B. Poulton, S. Schönland and A. E. Shipley. Oxford: Clarendon Press. 1889.

† Natural Inheritance. By Francis Galton, F.R.S. London: Macmillan and Cox. 1889.

‡ Heredity: a study. By R. A. Douglas Lithgow. London: Baillière, Tindall and Cox. 1889.

such a theory are. Weismann seeks for an explanation of variation in the facts of amphigenic or bi-sexual reproduction and has interwoven his theory with his explanation of those interesting and perplexing structures the so-called polar bodies. Many other topics of interest are dealt with in these essays which are worthy of the attention of all students of biology.

Mr. Galton's work is to a large extent founded on the results obtained from the family records which, it will be remembered, he was anxious to obtain some years ago. Many of the results are most interesting, and the mathematical problems introduced, some of which are from the pen of the Rev. Dr. Watson, will doubtless delight those interested in abstruse calculations. Many of the non-mathematical points will be more attractive to the general reader. It is interesting to observe that Galton's observations have led him to very similar conclusions to those of Weismann in several directions. Thus, he abandons the view of the heredity of acquired characters, though perhaps allowing of their possibility in the course of generations more fully than the last-named author. Again, his theory of particulate inheritance is similar in some respects to Weismann's view of variation, and his interesting observations on regression to mediocrity resemble Weismann's hypothesis of Panonisia. The scientific medical man will find much to interest him in this book.

Dr. Lithgow's book suffers from two weaknesses; a lack of arrangement—there is no division into chapters even—and a want of acquaintance with the great mass of literature which has appeared on the subject within the past five years. Hence it is likely to confuse and, to a certain extent, mislead those who are not themselves familiar with recent views on the subject.

SPIEGELBERG'S TEXT-BOOK OF MIDWIFERY.*

THE New Sydenham Society has acted wisely in publishing a translation of the favourite German Text-Book of Midwifery. Spiegelberg's work is throughout characterised by thoroughness, not the smallest detail escaping him; indeed this is sometimes carried to excess, as in the calculation of the period of pregnancy by means of the measurement of the foetus with callipers one arm of which it will be generally necessary to introduce into the vagina.

The arrangement of the whole work is very scientific. Spiegelberg did not consider that embryology lay within the scope of a midwifery text-book, and so with foetal pathology, but every other branch of Obstetrics is most ably treated. The chapters on mechanism of labour, diseases of pregnancy, and on abnormalities of the organs of gestation and of the decidua, call for special mention; and puerperal fever is dealt with in a very clear and simple manner.

The points of difference between Spiegelberg's teaching and that of the English text-books are few and unimportant. The chief, perhaps, is his theory of the *determining cause of labour*. This the author considers to be the accumulation in the maternal blood, as maturity approaches, of certain substances which had till then been used up by the foetus. These substances, which are assumed to be chemical irritants, by means of the blood call into activity the motor centres of the uterus. The frequent use of the forceps is deprecated. At the Breslau Maternity, which was under the author's care, the forceps were only applied in 2·4 p.c. of all cases, including cases where they were simply used for the purpose of instruction.

The difficulties in the pathology of puerperal eclampsia Spiegelberg gets over by the hypothesis that two entirely different

* A Text-Book of Midwifery. By the late Otto Spiegelberg, Professor of Obstetric Medicine in the University of Breslau. Translated from the second German edition by J. B. Hurry, M.A., M.D. Cantab. 2 vols. London: New Sydenham Society. 1887-88.

conditions are confounded under the same name ; that " True eclampsia depends on uræmic poisoning, due to an inadequate secretory activity of the kidneys ;" while " the cases of eclampsia without albuminuria form a special group ; they are acute epileptic attacks, the area of distribution of the sciatic nerve being the eleptogenic zone."

A very full bibliography of recent literature is appended to each chapter, and the author is always ready to acknowledge the work of English and French obstetricians. The illustrations though not numerous are extremely useful ; most of them are already known to English readers.

Praise is due to Dr. Hurry for the translation, which is always easy in style and quite free from Germanisms ; some curious blunders however have crept in, *e. g.*, counter-irritations for contra-indications.

OBSERVATIONS ON SOME RARE DISEASES OF THE SKIN.*

THIS book is a reprint of some papers already published by Dr. Payne, and in a handsome volume of fifty pages is a valuable addition to our literature of Skin Diseases. Half of the book is devoted to Granuloma Fungoides, a disease first described by Alibert, and characterised by the presence of numerous tumours which are preceded by an eruption of red patches on the skin, on the basis of which the tumours develop. The skin covering them soon ulcerates, exposing a smooth moist surface which being often red led Alibert to compare the lumps to tomatoes. They vary in size from that of a pea to that of a large apple. They vary in the rapidity of their growth and generally break down and ulcerate, sometimes disappearing completely. No

* Observations on some Rare Diseases of the Skin. By J. F. Payne, M.D.
London : Smith, Elder and Co. 1889.

organs except the skin are at all constantly affected, though the lymphatic glands may become enlarged.

The course of the malady appears to be almost invariably progressive and fatal. The French school hold the disease to be a "lymphadénie," while others regard it as a sarcoma, but Dr. Payne does not accept either of these theories. He considers the disease a specific one, and that its manifestation, the tumours, are a species of granular tumour or granuloma, and that, though as yet no specific micro-organism has been found, such a cause may be possible, though he inclines rather to the idea that the cause may be of a soluble or diffusible kind, and not living.

The other paper of importance is one on a case of Erythrasma, a newly described disease in some respects like eczema marginatum occurring on the scrotum and the adjoining part of the thigh. It is due to a parasite, the microsporon minutissimum.

Brief references to Pruritus Hiemalis and cases of Beaded Hairs complete the volume, which is of great value to all students of dermatology.

CREMATION AND URN-BURIAL.*

It is most sincerely to be hoped that the prejudice against cremation will be speedily overcome, and that this rational and decent method of disposing of the dead will before long come into general use in this country. From how many points of view is the present fashion objectionable? It is repugnant to the feelings, as everyone must admit who has attended a funeral and seen the coffin containing a well-loved one let down into a damp hole in the ground. It is disgusting to the imagination and in fact; for what can be more horrible than the process of decomposition in a confined space, and retarded by the protection afforded by the coffin and coverings of the body? It is unhealthy, numerous instances of illness having occurred from

* Cremation and Urn-Burial: or Cemeteries of the Future. By W. Robinson. London: Cassell and Co., Limited. 1889.

drinking-water being polluted by churchyard drainage, and by direct poisoning from the emanations from partly decomposed bodies in exhumations, etc. It is leading to an enormous appropriation of land, which, if civilisation with its present prejudices and power to protect them persists, will in a very few years become a very serious thing. The present volume is intended to point out the numerous advantages of cremation and the horrors of the present system. This is done in a pleasant, popular way, and the work is illustrated with a number of plates of funeral urns, which, as suggested alternations to the conventional coffin, ought to weigh with all persons who are open to æsthetic considerations. We cordially wish the book every success in its good purpose.

Letter to the Editor, etc.

To the Editor of the "Birmingham Medical Review."

Dear Sir,—It may be of interest to yourself and your readers to know that Antipyrin and Lanoline have just been adopted as officinal in the Austrian Pharmacopœia. This is perhaps a most important endorsement of the value of these two new additions to modern materia medica.

Is it not significant as showing that Lanoline is the ointment base of the future that it has been adopted in the Austrian officinal formula for the preparation of Unguentum Hydrarg., while Vaseline, which has now been introduced many years, is not yet adopted in a single instance?

Hoping you will deem this of sufficient interest to your readers to mention it in your journal, we are, yours very respectfully,

BURROUGHS, WELLCOME & Co.

July 26th, 1889.

INTERNATIONAL MEDICAL CONGRESS.

WE, the undersigned, do hereby give notice, that according to the resolution passed at the Washington meeting, Sept. 9th, 1887, the Tenth International Medical Congress will be held in Berlin.

The Congress will be opened on the 4th and closed on the 9th day of August, 1890.

Detailed information as to the order of proceedings will be issued after the meeting of the delegates of the German Medical Faculties and Medical Societies at Heidelberg on the 17th of September in the current year.

Meanwhile, we should feel sincerely obliged if you would kindly make this communication known among your medical circles and add at the same time our cordial invitation to the Congress.

VON BERGMANN. VIRCHOW. WALDEYER.

NEW INVENTIONS, DRUGS, ETC

MESSRS. SOUTHALL'S AÆRATED DISTILLED WATERS.—A recent writer on Bright's disease has said: "Permanent hardness in drinking water, due to excess of lime salts, is an undoubted cause of the uric acid dyscrasia in the persons who use it, and thereby it is an indirect cause of Bright's disease. Throughout this district (Warwickshire, Staffordshire, and Worcestershire) the drinking water is very hard, and its relation to uric acid formations is to my mind beyond all question." (Dr. Saundby, "Lectures on Bright's Disease," p. 202.) We are therefore very glad to draw attention to a new enterprise undertaken by Messrs. Southall Bros., of Bull Street, who are now manufacturing aërated waters of all kinds made with distilled water. They supply a simple aërated distilled water, soda, potash, lithia, seltzer, lemonade, etc., the advantage being that they contain nothing but those substances which are intentionally and especially free from lime. We have seen several cases of renal stone and gout in persons who were abstainers from alcoholic drinks, and in whom no other cause could be found than the hard water, and who have been cured by drinking only soft water. The prices at which these waters are offered compare favourably with most in the market, and

especially with the aerated distilled water made in London, and sold under the name of Salutaris water. They are, moreover, extremely pleasant to the taste.

Miscellany.

A QUIET BEDFELLOW.—When the —th Hussars were at Umballa they had in the regiment an old paymaster of the type that got into the army about the time of the Crimean war ; his manners were rough, he usually got comfortably drunk every night at mess, and he was by no means popular. One night some officers put a tame bear belonging to one of them into the old man's bed, and having removed all means of obtaining a light waited in hope of hearing a lively scrimmage when the two bears met. After some time their victim came in ; he swore at his bearer for leaving him no light, searched in vain for matches, then pulled off his uniform and got into bed. Instead of the anticipated scene following, all that rewarded the patience of the watchers was hearing him grumble drowsily. "Can't you keep your own side of the bed?"

New Books, etc., Received.

- The Clinical Use of Prisms. By ERNEST E. MADDOX, M.B. Bristol : John Wright and Co. 1889.
 The Classification, etc., of Diseases of the Skin. By HENRY S. PURDON, M.D. London : Baillière, Tindall and Cox. 1889.
 A Textbook of General Therapeutics. By W. HALE WHITE, M.D., F.R.C.P. London : Macmillan and Co. 1889.
 Secondary Mixed Infection in some of the Acute Diseases of Children. By BAYARD HOLMES, M.D. Reprinted from the *North American Practitioner* for 1889.

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NOTICE.—*All Communications should be addressed to the Publishers, Messrs. Hall and English, 71, High Street, Birmingham.*

THE
BIRMINGHAM MEDICAL REVIEW.
OCTOBER, 1889.

ORIGINAL COMMUNICATIONS.

NOTES FROM MR. LAWSON TAIT'S CLINIQUE.

SERIES I.

M. A. G., aged 25 years, married six years, two children living and one died at birth, premature (seven months). Last child 11 months old and healthy. Menstruation commenced about 15. Always regular, period about five days. No intermenstrual discharge. She has noticed a lump in abdomen since the birth of last child, it was at first situate on the right side in the lumbar region.

Her first child was born one year and seven months after marriage, and she was laid up for three months with "fever" after delivery. Since then she kept well until the birth of her last child. Her first symptoms were severe pain in right loin. This continued for three months, coming on every day at about 11 o'clock and lasting about one hour. Then for three months she was free from pain. Pain recurred and spread over the abdomen. Vomited occasionally in the morning between breakfast and dinner hour. Vomit sometimes greenish and at other times simply her food unchanged. The tumour has been increasing in size continuously, more rapidly during the last three months. She thinks it has varied in size, getting smaller sometimes. No urinary troubles. Says urine is sometimes gritty. Bowels rather costive.

Parovarian cyst embedded, splitting up the broad ligament.—

The above history was given to me in the middle of June, 1888, by a patient sent to me by Dr. Nelson. She suffered very considerable distress from a tumour firmly fixed in the pelvis, which had been growing with marked rapidity. The nature of the tumour was not at all clear, but as the pelvic limits were obliterated completely it was perfectly clear that the broad ligament had been split up, and the tumour was, as we say, embedded. Very faint fluctuation was discovered in certain diameters, but not in others, and although I made the diagnosis of parovarian tumour, I was not at all certain that I had not to deal with a soft œdematous myoma. I opened the abdomen on June 19th, and from the colour of the tumour was at once satisfied that it was parovarian. I therefore tapped it and removed about a pint and a half of fluid. The peritoneum ran from about the second or third lumbar vertebra straight on to the tumour, dipping down on both sides as far as the limits of the false pelvis, but not at all into the true pelvis so that the two folds of the broad ligament were completely separated by the growth of the tumour.

I made an opening in the peritoneal covering of the tumour where I had tapped it, that is to say, in the anterior upper part and, with a good deal of trouble, enucleated the cyst from its bed. The hæmorrhage was very slight, a drainage tube was left in for six and thirty hours. The patient made an uninterrupted recovery, going home on the 6th of July.

C. S. H., aged 33, single, commenced to menstruate at 16 years; last menstrual period two weeks ago. Has been ill for from seven to eight years, but has never been robust. She has never menstruated regularly, sometimes nine and ten months elapsing between her periods. On one occasion she saw nothing for more than twelve months. This was previous to her present illness. Her losses were usually scanty.

From seven to eight years ago she had a bad attack of diarrhoea and dysentery, and what she called "inflammation of the womb." Since then the periods have been at intervals of three

weeks, lasting ten days ; copious. The diarrhoea has continued on and off ever since. She usually has a good deal of pain during the period, principally on the left side. This has been much worse during the last seven years, and continues to get worse, spreading over the abdomen up to the chest. In the intervals between the periods, a yellowish white discharge, which has gradually increased in amount and got thicker. For the last year and a half she has been totally invalided and in bed.

Three years ago she was operated upon in America for occlusion of the cervix without any beneficial result. In January last had a uterine polypus removed. When quite a child had an attack of scarlatina. Has had pneumonia three times, and pleurisy once. Five years ago she wore a pessary for ante flexion for ten months. For the last three years she has had great pain on passing a motion.

Present Condition.—Menstruates every three weeks, lasting ten days, profuse in amount, painful. Pain mostly on left side, where it is tender to the touch. The discharge between the periods is thick, yellowish white.

The patient whose case is narrated above was sent to me by Dr. Heywood Smith, in June, 1888. On examination, in the pelvis the uterus was found to be slightly retroverted, and quite fixed by bands of adhesions. The uterine appendages could not be felt. As my opinion coincided entirely with Dr. Heywood Smith's, that the patient was suffering from chronic ovaritis with adhesions, not likely to be benefited by anything short of removal of these organs, I opened the abdomen on July 2nd, and found the ovaries and tubes densely adherent on the upper part of the broad ligament. They were separated with very great difficulty, and removed. The patient made an easy recovery, and left on July 23rd. I have since heard that her condition, except that menstruation has been suspended, has not been much relieved. The time which has elapsed is far too short for anything like a satisfactory conclusion and for the ultimate result to be arrived at.

E. A. M., aged 30, married, first menstruated at 16, was

irregular for nine months, for no special reason that she knows of. Since then she has been quite regular. She is generally unwell for about seven days, loses profusely and used to have a great deal of pain. Since her marriage her menstruation has not given her so much trouble. Her chief trouble is that she bears no children.

The patient was sent to me by Dr. Wood, of Douglas, Isle of Man, as a case of pelvic peritonitis, with a temperature rising from 101° to 102° , and a pulse from 112 to 115, persistent night sweats and diarrhoea. She was very much reduced, weak and exhausted from her illness. The uterus was displaced backwards with a cystic mass to the left side. As this patient had never been pregnant and was very anxious to have children, she had been submitted to a good deal of local treatment, consisting of dilatation of the cervix and otherwise, but without any creditable result.

On attempting to open the abdomen, I found that the usual incision lead me into one of the congenital cysts of which I published an account in the *Gynaecological Society's Transactions* for 1886. Having cleaned it out I put a drainage-tube in, and the patient had an immediate fall of temperature and pulse, which was maintained steadily until her return home to the Isle of Man on the 28th of July. I subsequently received information from Dr. Wood that the suppuration went on for some considerable time, until a fæcal fistula formed. This slowly healed and the patient got perfectly well.

E. B., aged 39, married 17 years, first menstruated at the age of 15, and was always regular until two years after marriage. She then commenced to menstruate too frequently, about every eighteen to twenty days, and had a great deal of pain on left side just previous to and on the first days of period. During the last fifteen years she has had a yellowish discharge between the periods. This has not been quite constant, but during the last six weeks it has much increased in quantity. Has no children, and has never been pregnant.

Present Condition.—Loses less now than formerly, periods

regular. Last period three weeks ago, she lost more than usual and had a great deal of pain. The pain is very violent and spreads to rectum and vagina, and right side, but is always worst on left side. Copious purulent discharge.

This patient was sent to me by Mr. Hallwright, and her sufferings were so great that we both judged it to be necessary to interfere by surgical operation, seeing that all other methods of treatment had failed to give relief. I therefore opened the abdomen on July 10th, and found the appendages densely adherent, and both tubes occluded and distended with serum. The patient made a rapid recovery, and left on July 30th.

E. S., age 42, married 25 years, twice; has only had one child, who is 24 years old. Menstruation commenced at 13; was always regular until three years ago. Two years ago she underwent an operation for cystoma of left ovary. Three years ago she ceased to menstruate for six months; then she took medicine, and lost almost continuously for six months, when her first operation was performed. She was quite regular and well for sixteen months after the operation. Four months ago she ceased to be regular, and has seen only a slight show on three occasions. First noticed a return of tumour twelve to fourteen months ago. Was pretty well until two days ago. In stooping under a barricade she felt something like a rupture in her inside. The pain was so intense that she could not stand, and thought she would have died.

Present Condition.—Abdomen prominent, tympanitic above pubis; face florid; breathing hard; coughs; pulse weak and rapid.

I had removed the left ovary for cystoma in this patient about three years before. She was brought to me on the 12th of July in a condition of advanced collapse, her face being pinched and worn, pain intense, and pulse hardly perceptible. I immediately opened the abdomen, and found a large ovarian tumour which had ruptured from axial rotation. After the operation the pulse was 124, and it fell day by day until the fifth day of the operation, when it was 82; and about that it remained until she left on July 30th.

M. J., age 49, single, commenced to menstruate between 10 and 11. Ceased to menstruate seven months ago. Menstruation has usually been irregular, sometimes with two and sometimes three weeks' interval; very copious. She improved under iron.

Six years ago she first noticed some soreness in the left side. This, with slight intermissions, has continued ever since. Besides this she has had such severe attacks of pain in the left side that she has had to lay up. About this time (six years ago) she said she got very stout; but her medical adviser told her it was dropsy. She noticed that her urine at the time was scanty, dark coloured, and muddy, and there was some pain in the back. The œdema continued for four years, but abated considerably after the first month under treatment. She is generally costive, and has frequently to take aperients. There is severe pain during and for an hour after passing a motion. If she has taken a good deal of food this pain is much worse, and feels like a band across her abdomen. Fæces are generally hard, dry scybalous masses. Some tissue-like-looking substance was passed per rectum, which, on examination by the microscope, proved to be undigested or incompletely digested food, showing fragments of striated muscular fibre and degenerated cell structures.

This patient was brought to me by Dr. Yelverton Pearson of Cork, suffering from intermittent indications of intestinal obstruction. All the symptoms pointed to some obstruction on the upper part of the descending colon, because after a period of costiveness and when considerable obstruction arose, a distinct mass could be felt on this point. After very careful consideration, and more than one examination under an anæsthetic, we determined to make an exploratory incision to discover the cause of the obstruction, and both Dr. Pearson and myself were under the impression that it was due to some new growth. I performed the operation on August 4th, and found a matting of two coils of small intestines across the descending colon in such a way as very markedly to diminish its calibre. I very cautiously undid

these adhesions, and succeeded without damage in removing both coils from their position, and then closed the wound. The result has been completely satisfactory in every way, as the patient has had no return of her former symptoms, now nearly a year ago.

A. S., aged 36, single ; menstruated first at 14 or 15 years of age. Regular until the middle of December, 1888, period lasts usually from four to five days. Saw nothing from December, 1888, until March, 1889, then an ordinary period came on ; since then has seen nothing. She suffered much pain in February, and again in May and June. The pain is all over the abdomen, passes around her right hip and down the thigh. Her abdomen has gradually got larger, until now it is like a sixth months' pregnancy. Had measles and chicken pox as a child.

In general examination the cervix was found to be occluded by a tough membrane, which was distended very like a bag of membranes in the early stage of labour. I put her under an anæsthetic and divided the membrane freely, and about a pint and a half of the characteristic brown treacly fluid was discharged. I then washed the uterine cavity out by the protracted use of a warm water douche. She made a very easy recovery and went home on about the tenth day. The remarkable feature in this case is one which is to me altogether unique ; that she should begin to menstruate at 14 and continue to do so regularly till the middle of last December, a period of twenty-two years. The arrest of menstruation from December until March, looked of course more like a pregnancy than anything else, and the condition of the uterus by external examination confirmed this opinion. Vaginal examination, however, revealed the facts—firstly, that the patient was absolutely virginal, and, secondly, revealed the presence of this tough membrane which is altogether inconsistent with the idea of pregnancy, and as the membrane was distended, feeling like a hollow half-inch india rubber ball, with a diameter of about two inches, there could be no doubt as to the nature of the case. What produced this membrane, however, is a puzzle.

TWO CASES OF TUMOUR OF THE BLADDER.

BY F. MARSH, F.R.C.S.,
SURGEON TO THE QUEEN'S HOSPITAL, BIRMINGHAM.

THESE two cases, though peculiar in some details, well illustrate the two chief classes into which Tumours of the Bladder may be grouped clinically, viz., Innocent and Malignant. The former class are favourable for, and as a rule curable by, operative procedures; the latter seldom even permit of an attempt at removal. Partial removal and perineal drainage of the bladder have afforded relief from the most distressing symptoms—increased frequency and painful micturition and hæmaturia—in one or two instances where resection of the growth was obviously impossible.

Case 1. —G. P., æt. 45, Market Hall Porter.

Family History.—Father died when 33 years old; cause unknown. No history of cancer, phthisis, or gout.

Past History.—Until four or five years ago he was a hard drinker; beer being his favorite beverage. He has never had any serious illness. In January, 1886, he first noticed blood in his urine, mixed with it, but redder at the commencement of micturition, which process was associated with a dull aching pain referred to just above the pubes. No pain was felt at other times. Under treatment he got perfectly well from these symptoms in about three months. In October, 1887, he again noticed the appearance of blood in his urine, accompanied by the old pain, but according to his statement some blood came before the urine, dark and with clots. He came under my care as an out-patient at the Queen's Hospital, and on passing urine in my presence, the blood and urine were well mixed and of a bright red colour. On examination with the sound and per rectum, a soft elastic swelling can be defined in mid-line and to the left side of the bladder; the beak of the sound seemed to catch in the growth

and increased the amount of blood in the urine next passed. There was a marked absence of induration. The patient, having a great dread of any operative procedures, declined admission as an in-patient. He was ordered as an astringent ten grains of sulphate of alum three times a day, and in the course of a week the hæmaturia disappeared, and for two months there was no return. At the end of this time, after a fit of coughing, profuse hæmaturia came on and continued for 36 hours. He also noticed that his penis, scrotum, and left leg were slightly swollen. For a period of fourteen days the urine was clear, though the swelling of the leg, etc., increased. Again the hæmaturia recurred, though not present every time micturition took place, appearing perhaps twice to many times in the twenty-four hours. This condition persisting, he was admitted as an in-patient January 25th, 1888.

Present condition.—The patient is a sallow-looking man, anæmic, and somewhat cachectic and has lost flesh since last October. The penis, scrotum, and left leg are very œdematous. Nothing can be detected by external palpation in lumbar iliac or suprapubic regions. He has no pain in the lumbar region, or during micturition, which takes place with increased frequency both day and night.

Examination, per rectum and with a sound, shews that the swelling previously noticed is more marked, especially on the left side; there is no induration, and the prostate is normal. Examination increases considerably the amount of hæmaturia. Microscopically the urine shews blood corpuscles, triple phosphates, uric acid, and debris of no definite structure—chiefly blood cells, and bladder epithelium entangled in fibrin. A small quantity of albumen was present.

There was no doubt that a soft malignant growth, probably sarcomatous, occupied the lower part of the bladder, especially involving the left side.

I proposed a median perineal cystotomy for the purpose of a more thorough examination, and possibly to afford him some relief from the more important symptoms. He however declined

to submit to any operation that would not hold out a prospect of complete cure. During the eight days he was in the hospital he continued in much the same condition; the œdema slightly diminished with rest in bed, but the hæmaturia persisted, internal remedies having no effect upon it. He was discharged on February 2nd as he had rendered himself obnoxious in the hospital, and I have since ascertained that he died soon afterwards.

Case 2.—Thomas W., æt. 25, coach-builder.

Family History.—Unimportant.

Past History.—Early in the year 1886 he suffered from gonorrhœa, which lapsed into a gleet and was some months getting well. Twelve months later he began to suffer discomfort after micturition, experiencing a dull, aching pain in the suprapubic region, lasting for a day or two and then disappearing for about a fortnight. It was only felt for a short time after emptying the bladder. About this time increased frequency of micturition during the day was noticed. In July, 1887, he first noticed blood in his urine, mixed with it, but at times it seemed as though it was only pure, dark-coloured blood that passed. Frequency of micturition was much increased, and at times he could not hold his water for ten minutes; the pain, too, was more severe, extending to the penis and testicles, often continuous, but relieved after emptying the bladder. There has never been any sudden stoppage of the stream. He came soon after this to the Queen's Hospital under my care as an out-patient. He was carefully examined with a negative result. The use of the sound increased, however, the amount of blood in the urine next passed. Under treatment the symptoms disappeared, and he continued well for six months, when there was a return of the pain, hæmaturia, and frequent micturition, lasting about four hours and then disappearing. His urine was generally clear and normal.

Three weeks later, Feb. 8th, 1888, he was admitted as an in-patient and again carefully examined with a sound and per rectum with a similar negative result. The day following I

passed a flat-bladed lithotrite and brought away a shred or two of growth which, under the microscope, shewed a papillomatous structure. I may say here that the hæmaturia which immediately occurred on an instrument being passed, whether present before or not, would have rendered the cystoscope in this particular instance of little diagnostic value.

On the 16th Feb. I performed the usual suprapubic operation, using the rectal bag and distension of the bladder with boracic solution, the only noticeable detail being the extreme thinness of the bladder wall. On opening the bladder the boracic fluid was deeply tinged with blood, quite obscuring vision. Nothing could at first be detected ; but on a methodical examination, what felt as a rough patch was detected near the base on the right side. This was scraped with a Volkmann's spoon, and a few papillomatous shreds with blood-clot washed out. Nothing further could be discovered. The bleeding, which had been profuse, was now less. The bladder wound was carefully sutured with numerous fine silk sutures, the mucous membrane being carefully avoided. The bladder was tested to see if it was watertight, and as it leaked a little at the lower angle, another suture was inserted here. A catheter was not tied in. The first few days there was increased frequency of micturition, with pain, but very little blood in the urine after the first few hours. Cystitis however supervened, and on the fourth day a few drops of urine found their way through the wound. This increased in quantity, and at the end of a week none was passed by the urethra. The cystitis rapidly improved and the temperature kept normal. In a fortnight, twenty days after the operation, he commenced to again pass urine by the urethra, and in another week the wound was healed, all the urine was passed normally, though a little pain was experienced during and for a short time after micturition. The bladder was daily washed out with boracic acid solution.

On March 19th, six days later, this pain had disappeared, but a neuralgic pain was felt in the cicatrix, shooting down to upper part of thigh, and probably due to implication of a branch

of the ilio-inguinal nerve. This lasted nearly a month and gradually disappeared.

He was discharged April 25th, much improved in health, and passing water three or four times only in the twenty-four hours. A little pain still accompanied the act of micturition, and a small quantity of pus was present in the urine, which otherwise was normal.

May 23rd, 1888. Considerable improvement has taken place in his general health. There is still a small quantity of pus in the urine, and on one or two occasions he has passed fragments of phosphates, one of which became impacted in the urethra, it was however pushed back by the patient with his catheter, and subsequently passed when washing out the bladder. From the oval or pyriform shape of these fragments I concluded they had been formed round sutures which had ulcerated their way into the bladder. They fully explained the persistence of pus in the urine. No other fragments could be detected on examination with a sound. During the next few months the patient continued in much the same condition, occasionally passing a fragment and a small quantity of pus persisted.

At the end of July, in conjunction with my colleague, Mr. Jordan Lloyd, a careful examination of his bladder was made with the cystoscope. The following appearances were noted:—Bladder wall normal, but there is a dark coloured patch over the site from which the papilloma was removed, and on the anterior wall is seen a small calculus apparently attached over the lower part of the site of the suprapubic incision.

On Sep. 3rd he was admitted as an in-patient and a second cystoscopic examination gave a similar result, except that the calculus could not be seen. The next day, under an anæsthetic, I thoroughly explored the bladder with a lithotrite but could neither seize nor feel a calculus, nor could I extract one with an evacuator. However, a fortnight later a fair-sized oval calculus became impacted in the urethra and was passed the same way as the large one on a previous occasion. I made a section of this and found the nucleus was a small silk suture, the *fons et*

origo mali. Since then marked improvement has taken place in the patient, though there is still a trace of pus in the urine. In all other respects the man is strong and well, and there has been no hæmaturia since the operation.

The points which seem to call for special notice are :—

In case 1, the long interval elapsing between the first and second attacks of hæmaturia, a year and nine months; the absence of induration; the comparatively slight bladder symptoms; the oedema limited to the penis, scrotum, and left leg; and the rapidly fatal termination. I much regretted the unavoidable loss of a *post mortem* examination, it would have been both of value and interest.

In case 2, the occasional attacks of intense vesical irritation, with the profuse hæmaturia, caused by such a small papillary growth, and the complete cure of these symptoms by the operation. This case also illustrates a sequence of suture of a bladder wound which I particularly wish to emphasise, as it has hitherto not been sufficiently noticed by writers on this subject, but which must considerably influence the question of suture or non-suture in these cases, or, rather, the nature of the suture used. It is the tendency of silk or other indestructible sutures to work their way through the mucous membrane of the bladder—possibly owing to the constant movement of the muscular coats of this organ. On this suture, as soon as part of it appears in the bladder, phosphates, or urates, or both, are deposited, and we get one or more small pyriform calculi hanging from the anterior wall and keeping up a chronic cystitis. As the calculus increases in size, its weight and movement assist the separation of the suture, and at length it falls into the bladder and may or may not be passed by the urethra. There may be several of these calculous formations, not necessarily appearing at the same time, but perhaps following each other and spread over a considerable period, a complication not to be desired in the interests of the patient or surgeon.

To shew that this is not an isolated occurrence, I will briefly refer to a patient I saw in August, 1888, for my colleague,

Mr. Jordan Lloyd, during his temporary absence The patient had some time previously undergone suprapubic lithotomy with rapid primary union after suture of the bladder wound, and was well in a few days. He now complained of symptoms pointing to another calculus. I sounded and found one, and when the patient was emptying his bladder immediately afterwards, there was a sudden stoppage of the stream followed by the sharp impact of the stone against the vessel, much to his delight. From the shape of the stone, almost identical with those in my own case, I had no doubt it also had its origin from a suture, a view subsequently verified by Mr. Lloyd.

The experience of these cases alone conclusively shews that in the comparatively few cases which appear favourable for obtaining primary union by suturing the bladder walls an absorbable material must be used, otherwise, notwithstanding every care on the part of the surgeon not to include the mucous membrane in the suture, a risk of this troublesome calculous formation will be incurred.

REMARKS ON A CASE OF APHEMIA,
OF ELEVEN MONTHS' DURATION, WITH SUDDEN
AND COMPLETE RECOVERY.*

BY T. STACEY WILSON, M.B. EDIN., M.R.C.P. LOND.

THE subject of these notes is a man named F. C., who was admitted into the General Hospital on September 16th, 1885, and was then aged 46. He came under the care of Dr. Simon, to whom I am indebted for permission to make use of the case.

On admission, F. C. was found to have almost no power of articulate expression, together with a slight impairment of his power of reading intelligently, accompanied by a feeling of fulness in the head. He had been in this condition for three days.

* Read in part before a meeting of the Clinical and Pathological Section of the Branch of the B.M.A.

Family History.—Father subject to epilepsy; two or three brothers fairly healthy. He has three children living and healthy and has lost two, one from convulsions during whooping cough and one from “fever.”

Previous History.—Has suffered from rheumatism a good deal, and has been confined to bed by it on two occasions for two or three weeks during the last nine months. (He had another severe attack of it in December, 1888.) There is no definite history of syphilis to be obtained, although he had gonorrhœa followed by sore throat six years ago.

Present Illness.—For the last three or four weeks he has been very irritable and easily “put about,” but seemed better and quieter for some days before the attack. Three days before admission (on the 13th Sep) he seemed quite as usual up till evening, and did not complain of anything. About 9 p.m. a friend who was visiting him noticed that he “looked as if he were going to faint,” and asked if anything was the matter, to which F. C. replied irritably that he felt sleepy and wanted to be let alone. In about two or three minutes after this his head drooped and he fell sideways off his chair. He recovered consciousness in two or three minutes and seemed all right, except that he could not speak. He could understand everything that was said and could write clearly, and complained of his head feeling “large.”

On Admission.—Patient seems quite intelligent, and can understand perfectly what is said and can answer in writing, but he cannot speak. He can with difficulty be got to make the vowel sounds and also to alter the pitch of the sound produced, but he is very uncertain in doing so. He states that he tried to read yesterday, but although he could see the words clearly, the meaning was confused. On testing him, it is found that he can read single words intelligently, and understand a book if only a single line is shewn him at a time, but on looking at a whole page of a book he gets confused, and, to use his own words, he cannot read it because he wants to go too quick. His memory for words seems perfect.

September 20th. Complains of feeling stiff in his cheeks, and of having much pain all night in his jaws. Yesterday he seemed to have more difficulty in phonating than formerly, and could not be got to say "ah" so readily.

September 24th. Mouth still pains him, and cheeks are a little swollen and puffy. He has some difficulty in swallowing his saliva, and has completely lost the power of phonating.

He was discharged unrelieved on Sep. 24th.

There were no signs of heart mischief, and no paralysis could be detected. His temperature was normal, except during two days nearly a week after admission, when it ranged between 99° and 100° , and reached 100.2° on the evening of Sep. 23rd. Urine, sp. gr. 1022, acid with a trace of albumen.

Subsequent History.—He remained dumb after leaving the Hospital, but could soon transact his business as usual, except for having to write on a slate instead of speaking. The difficulty in reading very soon disappeared. He was interviewed in January, 1886, and was then absolutely dumb, just as when he left the Hospital.

During the next six or eight months he had several slight seizures of an epileptiform character; one was described as a "fainting fit" in which he was convulsed and "his arms and legs worked," and on two occasions suffered from prolonged periods of unconsciousness, during which he behaved as a more or less rational being. One of these may however have been simply due to alcohol, but on the other he travelled to London and went to visit a relative there without being in the least degree conscious of the journey or of any reason for his making it.

On a third occasion, in August, 1886, he started off from his workshop without changing his working apron and leaving the door unlocked, and went, he does not know how, to Wolverhampton or Bilston, for he remembers nothing till he found himself walking on the road between Bilston and Wolverhampton. But when he came to himself he was conscious of what he described as a "dreadful" sensation in his head, but he also felt that he could speak. In order to test his power he accosted

the first person he met, who happened to be a woman, and asked the time of day. He says he felt rather strange, and he must have looked strange also for he so frightened the woman that she ran off as fast as she could without staying to answer his question. From that day however his speech returned perfectly and has remained perfect since.

During the eleven months that he was dumb his memory was good, except for what happened in the fits referred to; his hearing and sight were normal, and he seemed in very good health. He occasionally however had peculiar sensations in his head, and if anyone spoke to him suddenly and he forgot he was dumb and tried to answer, he would suffer from "a very queer feeling and pain" in both sides of his head just above his ears, and this was accompanied by a "feeling of shock" and "sudden stoppage" which irritated him very much.

He was interviewed again in the spring of this year and then seemed the same as usual, his hearing and memory good, his sight seemed normal, and his field of vision and pupils were also normal.

Ever since his attack, however, he has been very irritable and irascible, so much so that his wife and children have had to give up living with him. He also seems to have been rather too fond of alcohol, although he has not indulged to such an extent as seriously to affect either his appearance or his employment.

He still has occasional attacks of pain in his head accompanied by a degree of confusion which lasts for a few minutes. To use his own words "his head feels very large," "when he puts his hand up to it he seems to feel it before he does." When he is suffering thus his head "feels mixed" just as it did the day when he recovered his speech; he is "mystified" and "methered," and cannot do his work for a time.

Remarks.—There are many points of interest about this case apart from its great rarity, and among them I may mention the fact that he recovered his speech after a complete aphemia of eleven months' duration, and that he recovered it suddenly and

completely, thus contrasting strongly with the extremely interesting case of aphemia recently republished by Dr. Bristowe* in which the initial lesion was apparently of a more extensive type, and the aphemia was cured by re-education after a lapse of nine months.

I think it may be worth while to go rather more deeply into the points raised by this case and see if it be possible to find anything of the nature of an explanation of its chief features, or, at all events, of a "working hypothesis" for the mode of their causation.

In the first place, there was here a loss of control over the motor centre for articulate language due either to some temporary vascular disturbance (*e.g.* a sudden local anæmia) that might be called functional, or else to some more serious lesion, such as a small hæmorrhage or the occlusion of a small vessel followed possibly by a very localised patch of softening. But whatever the extent of the damage was, I think we must admit that it must have all been repaired some time before control over the speech centre was regained, both on account of the length of time elapsing before that recovery and also because the recovery was complete and sudden, not gradual. In other words, although the nerve paths leading to the speech centre may have been destroyed by hæmorrhage or softening, the gaps thus formed must have been repaired, and all the bridges connecting the speech centre with the rest of the brain must, so to speak, have been rebuilt some time prior to the recovery of his speech. He did not at first, however, find out the way to direct nervous impulses along the newly repaired means of communication. Let us consider the reason of this failure. It was, I believe, because as a matter of habit every impulse sent towards the speech centre had been deflected to one side or the other in consequence of the block at first existing, and these paths became so well worn that every impulse turned aside into them instead of going in the direction intended. We know, as

* Diseases of the Nervous System, 1888, page 93.

a matter of experience, that the more any particular nerve path is used, the more easily does the passage of nervous impulses along it take place—a truth of which we are painfully conscious when trying to rectify a bad habit of thought or action. Thus the more this man tried to speak, by so much the more did he diminish his chance of speaking, in that he made more patent the channels which conducted the nervous impulses away from the desired destination. Finally, after a few months he gave up all hope of speaking again, and, as he says, he never tried to speak. The result of this was that all the nerve paths in the neighbourhood of the speech centre fell into an *equal* state of disuse. Then, in the sort of somnambulistic state during which he unconsciously travelled from Birmingham to Wolverhampton or Bilston, his brain being active and his mind at rest, some involuntary nervous impulse went straight along the old and long-disused path, over the new but as yet unused bridges, and into the speech centre; and when he recovered consciousness he felt that that area of his brain was once more under his control, and he promptly proved by experiment that this was so. That this was really a recovery of the old centre and not the education of a new one is of course proved by the fact that speech suddenly came back perfect just as it was before his attack.

I think we have an important lesson brought home by this case, namely, that having recognised the possibility of a paralysis resulting from what may be termed loss of memory of the way to use a part, we must realise that when once any particular power is lost and not recovered on the disappearance of the disturbance that caused the loss, attempts at its recovery on the part of the patient are apt only to do harm, unless they can be properly directed by the patient or his medical attendant; and this for the above-mentioned reason, that the more he tries, the more patent, as a rule, does he make the morbid channel that leads him away from the end he has in view.

Is not the truth of this fact shewn by almost daily experience? Is it not acknowledged that if we cannot remember some fact

which we want, after a certain amount of hunting for it in our brains, our efforts do no good, for our thoughts keep running in unproductive lines? The only thing to be done under such circumstances is to direct our attention to something else, thus letting that part of our brain come to a state of rest; and then after a time we suddenly find the way open to the corner where the wished-for memory lies stored. Therefore in cases like the one under consideration, where it is impossible to guide the patient as to the direction in which to make an effort for the recovery of the lost power, it seems to me that we ought to tell them to give up trying, and that they will be more likely to regain the power if they do not try than if they do.

Another important point to bear in mind in the treatment of such conditions is the possibility of overcoming the obstacle by some means apart from the patient's voluntary effort, and I believe that for this class of case we may have in hypnotism a means of effecting a cure. I believe that if this man had been hypnotised and told to speak he would have spoken long before he did. I know of a case something similar to this that was cured in this way. It was the case of a man with paraplegia from injury to the spinal cord, in whom there were signs that the mischief had all been repaired, but who was nevertheless unable to use his legs. He was hypnotised and told to walk, and he got out of bed and walked, and after this was repeated on several consecutive days he began to regain voluntary power over his legs, and was soon able to get about fairly well. I wish I had thought of treating this patient in the same way.

Thus I think we ought to remember that this loss of remembrance of the way to bring certain motor centres into action may be in some cases the sole cause of paralysis, and we ought to be prepared (1) to re-educate the patient to the use of these parts; or (2), as Dr. Bristowe did with his case of aphemia, to educate a new series of cells to take on the function that has been lost; or (3), if other means fail, we ought to take some other steps, such as those just mentioned, for re-opening communication with the disused tract of the brain.

And now as to the diagnosis. Was it simply a case of hysteria? I think we can safely answer this question in the negative. But, on the other hand, there was in this case a condition of the nervous system that is very frequently seen in hysteria, if it be not characteristic of that disease, viz, a condition in which there is an undue preponderance of a recent condition of the nerve cells or fibres or both over all previous conditions—a condition that may be more simply described as an abnormal shortness of memory on the part of the nervous system. Thus, if a nervous tract have been recently stimulated, it is unduly easy to stimulate subsequently; or if it have remained for some time unstimulated, it is unduly difficult of stimulation.

To give a common instance, which I have recently had under observation, a woman who is hysterical gets an attack of aphonia resulting from acute laryngitis, and it persists for weeks or months after the inflammation has gone and the larynx is normal, as proved by the cough having regained its normal tone; whereas if the woman had not been hysterical, the memory of the way to phonate would not have been lost, but the power would have returned coincidently with the subsidence of the inflammation. In this woman speech returned suddenly in the first instance, but in a subsequent attack she had to be re-educated by observing the act of phonation in coughing.

Again, in a person whose nervous system is normal an attack of aphasia is often of very transient duration, but where the nervous system is abnormal, as in the case of F. C., it may be very persistent, although we must believe the initial lesion to have been not very severe. However, although this man's nervous system was not in a state of normal equilibrium, I do not know that we can say for certain that he was hysterical, for it is possible that this special condition may be due to other diseases as well as to hysteria; and as he undoubtedly has an epileptic taint, as shewn by his father being epileptic and by his own attacks, it seems scarcely necessary to call in the aid of hysteria for the explanation of the case.

With regard to the initial lesion I do not see that it is possible to come to a definite conclusion. Was it what is called functional, and due to a sudden local anæmia from spasm of the vessels? or some other passing cause, and similar in character to the transient attacks of aphasia and paralysis which we so often see, lasting a few minutes or hours, and leaving no sign of their occurrence afterwards, but which in this case, owing to the peculiar state of the nervous system, did not so pass off? This is I think negatived by the fact that he continued losing what little power of speech he had left during five or six days, and also his difficulty in deglutition did not occur at first. In other words, the maximum local effect of the lesion was only established slowly. We must therefore consider it to have been some more serious vascular disturbance, due either to plugging of a small vessel by thrombosis (possibly syphilitic), or to the rupture of a small vessel followed by a slight hæmorrhage.

The absence of evident cardiac disease makes embolism unlikely although not impossible, especially if his liability to attacks of rheumatism be taken into account.

Thus all we can certainly say is that his attack was due to some local vascular disturbance that took two or three minutes or more to produce its maximum *general* effect on the brain and cause unconsciousness, and then as rapidly passed off leaving a *local* disturbance that took five or six days to reach its maximum local effect, and in its later stages was accompanied by some rise of temperature. As regards the disappearance of the local disturbance we can say but little, except that the slight difficulty in reading passed off in the course of a few weeks.

REPORTS OF CASES.

TRACHEOTOMY AND INTUBATION,

(WITH NOTES OF TWELVE CASES TREATED AT THE GENERAL HOSPITAL, BIRMINGHAM, BETWEEN MAY, 1888 AND MAY, 1889.)

BY E. N. NASON, B.A., M.B. CANTAB.

1. Katie B., age $4\frac{1}{2}$, was admitted on May 18th, under Dr. Rickards, for laryngeal dyspnœa. Her illness began on the evening of May 15th, but there was no dyspnœa until the day of admission. There was no membrane to be seen on the fauces, but the urine contained a cloud of albumen.

As the dyspnœa became progressively worse despite the use of steam tent, emetics and the application of hot sponges to the throat, tracheotomy was done on the morning of May 19th, the operation giving immediate relief. The same evening one large and several small pieces of membrane were coughed up through the tube.

May 22nd. Tube removed and not needed again.

May 24th. As some little fluid came through the tracheal wound when the child swallowed, she was fed by stomach-tube and enemata till May 31st. After this date recovery was uninterrupted, and child was discharged on June 15th.

2. *Samuel C., age 2, was admitted on Sept. 30th, under Sir Walter Foster, for laryngeal dyspnœa. He had been ailing for a week, but had no dyspnœa till morning of admission. No membrane to be seen. As hot bath, steam tent and emetics did not relieve the breathing, tracheotomy was done late the same evening.

Oct. 3rd. Tube taken out for one hour.

Oct. 6th. A few shreds of membrane were coughed up.

Oct. 16-26th. Fed by stomach tube.

* Child died the following January of empyema and general tuberculosis.

Oct. 21st. Tracheal tube left out finally. Discharged on Nov. 30th.

3. William F., age 2, was admitted under Dr. Wade on Nov. 22nd, with laryngeal dyspnoea of three days' duration. He was in an extremely asthenic condition with diphtheritic patches on fauces. Tracheotomy was done at once as the child was "in extremis." He improved a little for the first few hours, but died the following day.

4. Frederick J., age 5, was admitted under Sir Walter Foster on Nov. 25th with croupy cough, bronchitis and some laryngeal dyspnoea. There was no membrane to be seen on fauces, but the urine contained a cloud of albumen. As dyspnoea had steadily increased despite the usual treatment, tracheotomy was done on Nov. 27th; child relieved at once.

Nov. 28th. Small piece of membrane coughed up.

Dec. 1st. Tube removed and not replaced. Recovery interrupted. Discharged Dec. 31st.

5. Annie B., age 5, was admitted under Dr. Rickards on Dec. 4th, with laryngeal dyspnoea. An elder sister had died the week before of diphtheria. Child had been ill for eight days, and dyspnoea had been steadily increasing for three days before admission. There were patches on the tonsils and a cloud of albumen in the urine. Tracheotomy was done almost immediately as death from asphyxia was imminent. Large masses of false membrane were removed from the trachea with laryngeal forceps. Child sank from exhaustion on the evening of Dec. 5th.

6. David C., age 3, was admitted under Dr. Saundby on Jan. 10th, for laryngeal dyspnoea, which had begun some few hours before. Four other children of the same family had died of "croup." There was no membrane to be seen, but the urine contained a cloud of albumen. Breathing got steadily worse despite the usual treatment, and intubation was done at 11.30 p.m. on Jan. 12th. Child was at once relieved and slept quietly through the night.

Jan. 13th. Child still breathing quietly; takes food well with very little coughing. Had a severe attack of coughing at

4 p.m., becoming very cyanosed, and ultimately bringing up a quantity of thick mucus but no membrane.

Jan. 14th. Tube removed at 10 a.m., but had to be reintroduced at 2 p.m., as breathing had steadily got worse since the morning. Breathing was again at once relieved, child vomited several times, and ultimately brought up a round worm.

Jan. 16th. Tube coughed out at 8 p.m., and remained out till 6 p.m. on Jan. 17th, when it had to be replaced.

Jan. 19th. Tube coughed out again at 6-30 a.m.; replaced at 7-30. Coughed out at 10-30; replaced at 11-45. Coughed out at 3-15 p.m., and replaced at 5-20. Coughed out at 10 p.m., and replaced at 10-45. The breathing on each occasion at once became difficult directly the tube was coughed out.

Jan. 21st. The tube, which had remained in place since the 19th, was again coughed out at 12-45 p.m., replaced at 2, and coughed out at 2-45. On attempting to replace the tube at 3-45 in great haste, as the child was nearly asphyxiated, the thread attached to the tube broke, and the tube fell into the œsophagus and was swallowed. Breathing at once stopped, and tracheotomy had to be done in the greatest haste and without assistance. Artificial respiration, after some time, brought the child round, and he breathed quietly through the tracheotomy tube, soon regaining his colour. The temperature, which up till now had ranged between 99° and 102°, fell at once to normal, and remained so.

Jan. 25th. Tracheotomy tube left out, but had to be replaced almost immediately; and though repeated attempts have since been made to dispense with it, up to the present they have all been unsuccessful. The child made an uninterrupted recovery and is now quite well, except that he still wears a tracheotomy tube. The larynx is apparently almost completely stenosed.

7. Albert V., age 10 months, was admitted under Mr. Bartleet on Feb. 18th suffering from congenital syphilis with laryngitis, an increasing laryngeal obstruction, and great emaciation.

Feb. 21st. As breathing was becoming more and more difficult, intubation was done. This improved the breathing to some little extent, but the tube was repeatedly coughed out. As the intubation tube could not be kept in place, tracheotomy was done the same evening. Child lingered on till the middle of March, when it died in an extremely marasmic condition. *Post mortem* revealed syphilitic changes in liver and spleen.

8. William F., age 2, was admitted under Dr. Rickards on Feb. 23rd with laryngeal dyspnoea, which dated from the previous morning. There was deep congestion of the fauces, but no membrane to be seen. As breathing became worse under the usual treatment, tracheotomy was done the same evening. Child relieved at once.

Feb. 26th. Tube removed but had to be replaced, and could not finally be dispensed with till March 1st, after which recovery was uninterrupted. Discharged March 19th.

9. William T., age 3, was admitted under Dr. Wade on April 5th with laryngeal dyspnoea of two days' standing. Illness had begun with a "lump in the throat" ten days earlier. Tracheotomy was done within a few hours of admission, as dyspnoea was becoming very urgent. No membrane to be seen, but urine contained a dense cloud of albumen.

April 9th. Tube removed. Small piece of membrane brought up.

April 10th. A considerable quantity of the milk taken came through the tracheal wound, causing much coughing. Even milk thickened with arrowroot came through tracheal wound. Child was then fed by stomach tube, but could only retain very small quantities at a time.

April 25th. Milk ceased to come through wound, which after this rapidly healed. Discharged on May 6th.

10. Bertha T., age 2½, was admitted under Dr. Rickards on April 20th with croupy cough, and laryngeal dyspnoea of two days' duration. As the usual treatment by steam and emetics only gave very temporary relief, tracheotomy was done on April 21st. There was no membrane to be seen, and urine only contained a haze of albumen.

April 25th Tube removed and not replaced, recovery uninterrupted. Discharged May 5th.

11. William M., age 2, was admitted under Dr. Wade on April 26th with general bronchitis, and laryngeal dyspnoea of twelve hours' duration. As the usual treatment gave no relief, intubation was done at 11.30 p.m. Breathing relieved, but not completely; child very restless.

April 27th. Tube removed, laryngeal obstruction less, but bronchitis increasing. Child died at 12 midnight.

Post mortem showed extensive broncho-pneumonia.

12. Herman F., age 4½, was admitted under Dr. Wade on April 26th with laryngeal dyspnoea, which had been gradually increasing for five days. On admission there was great cyanosis and difficulty of breathing. There were patches on the fauces, and a cloud of albumen in the urine. The usual treatment gave little or no relief, and at 6 p.m. intubation was done. For a few seconds after the tube was introduced breathing became so difficult that tracheotomy was on the point of being done. The breathing, however, suddenly became easier, cyanosis and retraction of ribs disappeared, and the child fell into a quiet sleep. At 11.30 the intubation tube was removed accidentally, the thread having been left long, dyspnoea at once returned. On replacing the intubation tube a few minutes later, the child completely stopped breathing, and tracheotomy (for which everything was ready) had to be done with the utmost despatch. Artificial respiration brought the child round after some little time, and a large piece of membrane was immediately afterwards discharged through the tracheal opening. After this the child breathed very quietly. A second piece of membrane obstructed the tube later on the same night, rendering its immediate removal by the nurse and the introduction of the tracheal dilators necessary. During the next few days several more pieces of membrane were discharged through the tube, the surface of the wound was covered with a grey patch, and around it a diffuse cellulitis occurred.

April 30th. Tube was removed, but could not be dispensed with till May 9th.

May 8th. As fluids returned through tracheal wound, child was fed by stomach-tube till May 16th.

Discharged on May 28th.

Of the foregoing twelve cases it will be seen that eight recovered and four died. Of these four, two were cases of diphtheria with extreme depression, where death occurred on the second day from the severity of the disease. In both these cases the operation of tracheotomy was done rather to prevent immediate suffocation than with any but the remotest hope of an ultimate recovery. Of the other two, one case was that of a syphilitic infant of 10 months, in an extremely marasmic condition. Here life was prolonged for about a month, but the child continued to waste and ultimately died, though with no further respiratory complication. The last case was one of general broncho-pneumonia, complicated by laryngitis with obstruction. In this case intubation alone was done. In three of the four cases in which intubation was done, tracheotomy was subsequently necessary, and in two of these had to be completed with the utmost haste.

With regard to the relative merits of the two operations, the above-recorded cases shew that intubation, though a "bloodless" operation, is accompanied by many risks from which tracheotomy is free. Granting that it can be done more rapidly and with less shock, do not the disadvantages more than outweigh these advantages? In cases where there is membrane in the larynx—and it is impossible in the majority of cases to say beforehand that there is not—the risk of crowding down this membrane with the intubation tube and completely blocking the trachea is such a serious one that, when one has tracheotomy as an alternative, intubation seems scarcely justifiable. This particular risk was well exemplified in case 12, where the child would inevitably have died had one been unprepared for this accident, or had anything prevented the immediate opening of the trachea. In speaking of this danger Dr. Wexham, in an article in the *Brit. Med. Jour.* for Sept. 29th, 1888, says: "In introducing the tube, if false membrane be crowded down ahead of

it, which cannot be expelled by coughing, then the tube should be removed at once. If it cannot then be expelled, the trachea forceps . . . should be introduced and the membrane removed. If this is not successfully accomplished and the patient seems about to suffocate, tracheotomy should at once be performed." This reads as though there were plenty of time for all these various manœuvres, when in reality there is barely time for tracheotomy, the only one which is *certain* to give relief.

One point in which intubation has a distinct advantage over tracheotomy is the warming and moistening of the inspired air in passing through the upper respiratory passages. Here again, however, we meet with certain objections from which tracheotomy is free. In the first place the intubation tube cannot be cleaned "in situ," or removed at a moment's notice in case it should become blocked, nor can it be removed at all by the nurse. Again, in some cases it is repeatedly coughed out of the larynx rendering frequent reintroductions necessary. In case 5, where this was particularly the case, a permanent stenosis of the larynx occurred, which may have been due to the irritation of the intubation tube. Or when coughed up the tube may be swallowed, as occurred in case 5.

And lastly, intubation affords no opportunity for any local application to the trachea, such as can readily be used where the trachea has been opened. In comparing the results of a large number of published cases of tracheotomy and intubation, one finds that the percentage of recoveries is about equal, but it must not be forgotten that intubation is more likely to be done in the less severe cases, which fact would of course give the operation, as far as statistics go, an unfair advantage over tracheotomy, which is so frequently done in almost hopeless cases. As to the operation of intubation itself, there is no great difficulty in its performance, but it certainly should be practised on the dead subject first. The chief points seem to be to keep the tube strictly in the middle line and, as soon as the end of it reaches the glottis to raise the handle of the introducer vertically

so as to hook the end of the tube round, making it point a little forwards as well as downwards as it passes into the glottis. No force should be used, and last, but most important of all, the operator should have everything ready for tracheotomy, and should himself be prepared to do it at a moment's notice.

NOTES ON SURGICAL CASES.

BY WILLIAM F. HASLAM, F.R.C.S.

ASSISTANT SURGEON TO THE GENERAL HOSPITAL, BIRMINGHAM.

Dermoid Tumour of the Nose.—These interesting congenital tumours are met with in many situations, but so far as I know the tip of the nose is an extremely rare position in which to find one.

A child aged 3 years, was brought into the out-patient room on August 2nd, 1889. At the end of the nose there was a very distinct prominence caused by a fluctuating swelling. This had been noticed by the mother at birth, and had recently been increasing in size. There was no pain or inflammation about it, and it was only on account of the deformity that the child was brought to the Hospital. An incision was made, and a quantity of white sebaceous matter was squeezed out from the cavity, which occupied the tip of the nose. It was impossible to dissect the sac away from the fibro-fatty tissue in which it was situated, so its interior was freely scraped and a small plug introduced. In the course of a few days it had healed, and there was hardly any scar to be seen. No hairs could be seen on the sac wall, nor could any be found on examining the fluid with the microscope.

Congenital absence of the fibula and the outer side of the foot.—

B. H., a healthy boy, aged 5, was brought to the Hospital on August 7th, 1889.

There was complete absence of the fibula on the right side, with the two outer metatarsal bones and their corresponding toes; the second and third toes were webbed. There was no difference in the length of the thighs, but the right was less developed than the left.

The right tibia measured 5 inches, the left $7\frac{1}{2}$ inches. In the right tibia there was an anterior curve just below the middle, and there was some genu valgum on that side. There was most complete talipes equinus, the boy walking on the ends of the toes, or at times even on the dorsum of the foot. Flexion of the foot was impossible, but owing to the absence of the fibula there was some abduction at the ankle joint. This was completely under his control, the leg and foot being in one line when he walked about.

Measurements from the anterior superior spines to the surface of each foot in contact with the ground, were as follows:—
From right ant. sup. spine to the end of great toe, 18 inches.
From left ant. sup. spine to sole of foot, 20 inches.

The boy can run about very well, compensating for the want of length on the right side by some flexion of the left leg, and dropping of the right side of the pelvis. There was no other malformation. The mother attributed the deformity to her having been frightened by a horse during quite the early stage of her pregnancy.

Malignant Nasal Polypus Removed by Splitting the Nose.—
Jane E., aged 68, was admitted into the General Hospital under my care on August 14th, 1889. About four months ago she began to suffer from repeated attacks of epistaxis from the right nostril. These attacks recurred on an average four or five times a week; and though they did not last long at a time, the bleeding was profuse, the blood being, according to the patient's statement, dark in colour. After a month or so she noticed some discharge of a greenish yellow colour, and of a very offensive odour. In another month's time there was some swelling of the right side of the nose, and this has been increasing ever since. There was a gradually increasing obstruction in the nostril; and at the same time that the swelling occurred, tears began to run over that side of the face.

On admission, there was slight swelling of the right cheek close to the side of the nose, but no distension of the antrum could be made out. The right nostril was swollen, and its

cavity blocked by a dark red fleshy mass. There was an offensive discharge from the nostril, and epiphora on that side. Neither the orbit, mouth, or pharynx were encroached upon, and no enlarged glands were to be found.

Aug. 16th. The patient being under the influence of an anæsthetic, the nose was split by passing a sharp-pointed bistoury into the right nostril, perforating the soft tissues close to the junction of the nasal bone, cartilage, and septum, and then cutting outwards to the tip. By this means the side of the nose could be opened out, and a good view was obtained of its cavity. The growth, which was very soft, was removed in pieces until its attachment could be seen. This was to the mucous membrane over the middle turbinated bone, and was removed. Bleeding was easily controlled by sponge pressure. The cavity was dusted with iodoform, and the nose carefully sewn up with carbolised silk. The after-treatment consisted in syringing out the nose and blowing in iodoform. She had no pain or inconvenience after the operation, and left the Hospital on August 27th.

Remarks.—For this method of opening a nose I am indebted to Mr. Furneaux Jordan, who demonstrated it to me a few years ago on the cadaver, but until this case was presented, I have never had either an opportunity of seeing it done, or of practising it myself. Here it answered the purpose admirably, and enabled me not only to see completely into the nostril, but gave plenty of room for manipulation. There can be only one possible objection to it, and that is, the risk of leaving a scar in so prominent a position, but with careful sewing up, the vascular tissues of the nose will unite without leaving any appreciable disfigurement. The complete removal of the non-malignant nasal polypus is often difficult to effect, and frequent recurrences are common, but by such an operation their attachments might be seen and removed in a way that should be effectual.

Malignant disease of uterus; complete obstruction of the bowels; colotomy.—It is not often that uterine carcinoma is of sufficient extent to so compress the rectum as to cause complete obstruction, but the following case illustrates such a condition.

M. B., aged 60, was admitted into the General Hospital under my care, on August 21st, 1889. Nine months ago she noticed a discharge from the vagina, and shortly after this a "lump" low down in her abdomen; there was also great pain. Her bowels began to get very costive, and for the last month or six weeks the pain had been almost continual and the constipation very obstinate; indeed for three weeks before admission no motion had been passed, while vomiting and abdominal distension had come on.

On admission, the abdomen was enormously distended, the coils of distended bowels being plainly visible. There was vomiting and great depression. The rectum was found to be completely occluded by a large mass of malignant growth in the uterus. It was impossible to pass the finger beyond the obstruction. By vaginal examination the growth was felt arising in the uterus, projecting considerably into this canal, and blocking up the pelvis. A left lumbar colotomy was performed a few hours after her admission, and the bowel opened at once. A large quantity of fæcal matter was discharged, and the flow continued until the intestinal canal was emptied of its accumulation. The relief afforded was considerable; though of course there is the pain and exhaustion incident to the original disease, which must in due course terminate her existence.

A CASE OF EXTREME STRICTURE OF THE ÆSOPHAGUS OF LONG DURATION.

BY ALFRED HARVEY, M.B.

On Dec. 1st, 1886, I was consulted by T. P., aged 46, for some dyspeptic symptoms, and he incidentally informed me that he had a stricture of the œsophagus of 40 years' duration, which had proved impassable to instruments, and practically prevented his swallowing anything but liquid foods.

On further inquiry he gave the following history:—At the age of 5 years he swallowed some strong sulphuric acid. For the

resulting injury he was under the care of Dr. Wilcox of Bath Row, for upwards of a year. Ever since then the throat had been almost closed. He had lived chiefly on milk, beef tea, eggs and corn flour; could not swallow sago. When a boy he remembered getting something in his throat "not so large as a grain of pearl barley," which necessitated treatment at the General Hospital. He had been a patient at various institutions. About ten years before he had been an in-patient at the General Hospital where many attempts were made to pass bougies, but without success, and where a consultation was held to consider the possibility of other operative interference.

When I first saw him he was a pallid, gaunt man of 5 ft. 9½ ins. in height, and weighing 8 st. 12 lbs. He was then living upon fluid food which he always strained through a sieve, not daring, as he told me, to drink even a glass of beer without that precaution; he could eat potatoes and bread and butter, but did not care to do so as the process of swallowing was extremely tedious; could not eat meat. On examination a stricture was found at the level of the cricoid cartilage so tight that it would not admit a No. 2 urethral bougie.

On Dec. 3rd, after a sitting of 30 minutes, a No. 1 bougie was passed, and was kept in about an hour. Three days afterwards a No. 2 passed pretty easily, and the stricture was slowly dilated by the passage of a bougie every three or four days, till on March 30th, 1887, a No. 16 was passed. The patient was then 9 st. 10 lbs. in weight; could eat ordinary diet, and enjoyed his meals, keeping almost free from dyspepsia. He looked much better and felt for the first time in his life equal to his work. As the œsophagus then answered every useful purpose, I did not dilate farther, but gave him a No. 15, which he learned to pass easily. The bougies used were the ordinary black gum elastic flexible ones of French make.

I have recently (June, 1889) seen T. P. again. His health has remained good during the past two years, and he has gained a little more in weight. After a few months he neglected the use of the bougie, and some contraction of the œsophagus has already

taken place, as it only admits with difficulty a No. 11. He will probably continue to neglect it until progressing contraction causes a perceptible difficulty in the power of swallowing.

The points of interest in this case are (1) the recovery of the patient as a child after such extensive injury, and the prolongation of his life with so small an oesophagus; and (2) the completely anæsthetic condition of the cicatricial tissue about the throat, which permitted the necessary manipulations without pain and almost without discomfort to the patient.

CASES OF DIABETES MELLITUS, ILLUSTRATING VARIOUS PHASES OF ITS CLINICAL HISTORY.

BY ROBERT SAUNDBY, M.D. ED., F.R.C.P. LOND.
PHYSICIAN TO THE GENERAL HOSPITAL, BIRMINGHAM.

Case 1.—*Diabetes Mellitus—polyuria—thirst—emaciation—rheumatic antecedents—unfavourable effect of skim milk—death by Coma—use of Strychnine.*

Arthur P., 43, nailer, was admitted into the General Hospital on October 20th, 1886, complaining of thirst, weakness, and of passing a large quantity of water—he thought as much as six or seven quarts a day.

History.—His illness began six months ago with pains in his legs, which his doctor called rheumatism. A month later it was discovered that he had diabetes, but no change was made in his diet. He continued to get worse; and having been to Rhyll without benefit, he came to the Hospital. His previous health had been good, except for rheumatic pains in his hands. His father and mother were alive, as well as all his brothers and sisters, and, except that his mother suffered from rheumatism, no pathological incident could be discovered.

Condition on Admission.—He was a small, emaciated man; height, 5 ft. 3 in.; weight, 8 st. $\frac{1}{2}$ lb. He used

to weigh 10 st. T. 98°, P. 72, R. 14. Teeth irregular and decayed, tongue red and beefy, flatulent eructations after food, bowels regular, liver and spleen normal. Complains of giddiness, and is short of breath on exertion. Heart's sounds normal; no cough; some impaired resonance; harsh breathing; prolonged expiration, and slight crepitation at the right apex. Urine 264 oz., 1035, acid, clear, urea 0.7 per cent., very faint cloud of albumen, sugar 6.9 per cent.

Progress of Case.—On Oct. 22nd he was put on six pints of skim milk daily.

Oct. 23rd. He grumbled about his diet.

Oct. 24th. Complained of feeling low; bowels open; tongue still raw and beefy. Urine 216 oz., sp. gr. 1033, acid, pale straw colour, white flocculent deposit, urea 0.9 per cent., a cloud of albumen, sugar 6.25 per cent., a trace of blood, and a few red and white blood corpuscles seen with the microscope. At 7-30 p.m. he complained again of feeling low, and of a pain in his bowels which he attributed to the milk.

Oct. 25th. In the morning he made the same complaint, and said he was cold. His pulse was feeble, and his tongue dry, brown, and cracked. At 10 a.m. he was drowsy, and his respiration was rather deep. At 11-30 a.m. P. 160, R. 20; there was pain in the stomach and bowels; no urine passed since 8 a.m. He was ordered an enema to empty the bowels, a bottle of Vichy water to be taken with lemon juice in the course of the day, an alkaline injection (sodii bicarb. $\frac{3}{4}$ i., ad. aq. Oss.) to be given by the bowel as soon as the rectum had been cleared out, and the following mixture every hour:—

R. Etheris sulph. $\mathfrak{m}$ xx.
Pot. bicarb. gr. x.
Aquam ad. $\frac{3}{4}$ i., M.

In the course of the day the rectum was well cleared out and scybalæ removed, but he got worse, and at 8.45 p.m. I saw him again. T. 99, R. 24. He lay apparently asleep, but could not be roused. His breathing was very deep, but there was no special odour about him. His urine gave a well-marked

acetone reaction. He was ordered liq. strychninæ $\mathfrak{m}$ v. *sub cute* every fifteen minutes until muscular twitchings were produced. After three injections he spoke and drank some Vichy water. At 9-25 he had another alkaline-enema, containing one ounce of bicarbonate of soda. After this the strychnine injections were given irregularly at 10-10, 10-40, 11-10, 11-55, 1-50 a.m., and then not till 9 a.m.

26th. At 9-30 a.m. I saw him again. No physiological symptoms had been produced by the strychnine, so ten minims were ordered to be injected every half-hour. P. 128, R. 26, T. 99. He was decidedly better, answered when spoken to, took beef tea very well. The knee jerks were absent. The strychnine was again neglected; after I left it was given only every hour. His temperature had begun to rise. At 11-30 it was 102° ; at 12-30, 103° ; by 2 p.m. he was comatose again. Three ounces of urine were drawn off from his bladder; it was acid, sp. gr. 1023, and free from albumen and sugar. At 5 p.m. his temperature was 105° , and at 6 p.m. reached 106° . At 6-30 he was plainly dying; the face was a little drawn to the left, and the right pupil was larger than the left. He died at 6-40 p.m. without other change taking place.

Case 2.—*Diabetes Mellitus.—Death from Coma with high temperature.*

Sarah L., 19, tailoress, was admitted on August 22nd, 1885, complaining of thirst and of passing a great quantity of water. The notes of the history of the case are missing.

Condition on Admission.—She was poorly nourished, but her physical signs were normal. The urine was 136 oz., sp. gr. 1039, acid, clear, a cloud of albumen; sugar 7.6 per cent.; urea 0.65 per cent.; acetone reaction and ferric chloride reaction both well marked. T. 98.8° , P. 108, R. 24. She was placed on house diet and ordered a simple enema.

Progress of Case.—On the evening of the 23rd she had an enema, and felt faint after it. She vomited just before midnight, and again at 4 a.m. At 5 o'clock she cried, and complained of great pain in the small of her back. The

matter vomited gave a distinct acetone reaction with the nitroprusside test. Hot fomentations were applied, and at 8 a.m. she had a grain of extract of opium, and a second was given at 10 o'clock. At the visit at 10 a.m. she was still complaining of the pain; her respiration was panting, 32; pulse 132; temp. 98.5°; bowels had been moved freely; tongue red and dry. She had passed no water since 4 a.m., so at 11 a catheter was introduced and 10 oz. of urine drawn off, which was pale, clear, sp. gr. 1040, acid, a cloud of albumen, sugar 5.9 per cent., urea 0.9 per cent., acetone and ferric chloride reactions well marked. She was becoming unconscious, and by 11-30 was lying on her back, comatose, with contracted pupils. At 11-30 36 oz. of sulphate of soda solution were injected into the veins. She improved during the operation, the pulse became stronger, she was less drowsy, and she complained of the tightness of the bandage which was afterwards applied to her arm. At 2 p.m. she could not swallow, so three-quarters of a pint of water were administered by the bowel. At 3-30 the pulse was 165, very feeble, eyes turned up, respiration sighing. At 4 p.m. a second enema of about a pint of acidulated water was given. The pulse improved a little and respiration was quieter. At 5-30 16 oz. of urine were drawn off, which did not differ materially, except that it was sp. gr. 1031 and contained only 4 per cent. of sugar and 0.3 per cent. of urea. An enema of acidulated water was given every hour; but at 7-30 p.m. the noisy, deep breathing began again, and the enemata were discontinued as they were not retained. At 7 p.m. the temp. was 103°, and at 9 p.m. it had risen to 103.5°. Resp. 22, pulse 169. No other change took place. She died quietly, without any convulsion, at 11-10 p.m.

At the autopsy the body was covered with a thick layer of fat. There was no peculiar smell on opening the body. The blood appeared normal. All the internal organs were congested but healthy, though the brain presented some excess of cerebro-spinal fluid.

Case 3.—*Diabetes Mellitus—no polyuria—wasting—vertigo—albuminuria—apoplexy—death.*

Mr. W., 56, was seen in 1885 as a candidate for life assurance, when sugar was found in his urine. He was brought to me on November 29th, 1886, by my friend Mr. F. W. Underhill, of Moseley, complaining of giddiness and temporary attacks of loss of consciousness. His eyesight was good; there was no hemiopia, or double vision; his optic discs were normal. There was no obvious hypertrophy of the heart; the pulse was rather empty. The urine was not increased in amount; he did not rise at night to pass it; it was acid, 1021; contained a little sugar, and gave a haze of albumen on boiling.

I heard that he got much better on the treatment employed; but on Feb. 3rd, 1887, he had some friends to dinner and drank champagne. The following day he was seized with deafness, inability to speak, and progressive stupor. When seen late that night he could not speak, his pupils were contracted, his pulse hard, and he was restless; but there was no paralysis of the limbs. He was bled to 16 oz., and afterwards expressed himself by signs as feeling better. However, he died the following night from œdema of the lungs.

Case 4.—*Diabetes Mellitus—thirst—polyuria—albuminuria—acetonuria—phthisis—gangrene of lung—death.*

James B., 29, wire drawer, admitted June 27th, 1885, complaining of general weakness, wasting, and thirst.

History.—He had been ill 18 months, the first symptoms noticed being loss of weight. He used to weigh 13 st. His work was in an ill-ventilated shop, exposed to acid fumes; he drank about eight quarts of beer daily. His previous health had been very good. His father and mother and five of his brothers and sisters were dead, but he could furnish no precise information as to the causes of death. Three of his sisters were alive and well. An early symptom of his illness was thirst and passing a very large quantity of water; his appetite had latterly been good, but he had got weaker. For a month past he had had a feeling of tightness of the chest and a cough. His eyesight had been unaffected.

Condition on admission.—He was rather pale, hollow-cheeked and emaciated, weighed 9 stone. His cough was frequent, expectoration about $1\frac{1}{2}$ oz. daily, nummular, greenish grey. Chest flat and hollow below the clavicles. On the right side there was dulness at the right apex with bronchial breathing, metallic crepitations and whispered pectoriloquy; on the right side resonance at apex impaired, breathing harsh with a few crepitations. Pulse 108; R. 24; T. 101° ; urine 298 oz.; pale, clear; sp. gr. 1040; faintly acid; very faint cloud of albumen; 6.89 per cent. sugar; 0.7 per cent. urea; acetone reaction; ferric chloride reaction.

Progress of Case.—He was dieted and treated by extract of opium (gr. i) thrice daily, and Vichy water. His urine fell to about 100 oz., sp. gr. 1031, sugar 5.8 per cent., but on July 15th, at 9.40 p.m., he was found very weak, with quick pulse, laboured respiration and dilated pupils. He was conscious, and lay quite quietly, but occasionally the right side of his mouth was drawn down by a spasmodic twitching of the platysma myoides. He died at 11 p.m., but he was still conscious shortly before the end.

The *post-mortem* examination was made by Dr. Bull. The body was emaciated; there was no peculiar smell on opening the body and the blood did not contain excess of fat. The left lung was free, oedematous and congested. No fluid in the pleura. Right lung adherent at upper part, which was converted into a large abscess cavity containing thick sanious fluid which escaped on removing the lung. The inner surface of this cavity was rugged, dirty green, and a large piece of black gangrenous lung tissue hung by a shred from the posterior wall. Bands of tissue crossed the cavity. Its walls were very soft. It had no very offensive smell. The lower lobe was congested and oedematous, and contained numerous patches of lobular pneumonia, some breaking down. The bronchial glands were greatly enlarged. There was no other special change noted in any other organ, except that the liver and kidneys were very large.

Case 5.—*Diabetes Mellitus—polyuria—wasting—diarrhoea—very low temperature—discharged unrelieved—subsequent death.*

George H., 42, tailor, was admitted into hospital on Jan. 25th,

1887, complaining of tingling of his tongue and the roof of his mouth, with cramps in his legs. These symptoms came on about a week after Christmas.

History.—He had been losing weight since November. He had been passing more water than usual and had been thirsty. He had never been ill, except that when he was 19 he spat a little blood. Father died aged 35, of "brain fever;" mother died aged 70, of "diseased stomach." There was only one sister who died when she was 5, but he did not know the cause of death. He had never met with any accident or personal injury.

Condition on admission.—He was a poorly nourished man. P. 90, T. 100°, R. 17. Physical examination revealed nothing except some want of resonance and deficient breathing at the apices of both lungs, and his pulse was very weak. Urine, 116 oz., sp. gr. 1035, acid, straw-coloured, no deposit; 0·8 per cent. of urea, 5·8 per cent. of sugar, no albumen.

Progress of Case.—He was dieted and treated with alkalies and codliver oil; afterwards with morphia. He had several attacks of diarrhoea which interfered with his progress, and his temperature was irregular, sometimes rising to nearly 100°, but more often being subnormal, being several times as low in the morning as 95°. The low temperature was not the result of the diarrhoea, that is, it did not occur at the same time as the diarrhoea, or after those attacks. He never complained of feeling cold when it was at its lowest, and on being asked said he did not feel cold. He was ultimately discharged, and we heard died in a short time.

Case 6.—*Malignant Disease of Abdomen—glycosuria—no polyuria—slight thirst.*

William J., 45, admitted on July 12th, 1887, complaining of having had diarrhoea for a year, and of passing slime and blood from his bowel.

History.—He had lost five stone in weight, and had severe pain in the loins and hypogastrium, so great as to make him cry out. There had been no swelling, but nine months before he had jaundice, which lasted two or three months, and

he used to vomit, but he had no pain then. Two years ago he was laid up with bronchitis, but could remember no other illness. Of late he had suffered from thirst, but did not think the quantity of his water excessive. Father dead, aged 50, cause unknown. Mother living in good health. One sister died in the Queen's Hospital from some wasting disease. He never heard of any case of cancer, gout, diabetes, fits, insanity, or consumption in his family.

Condition on admission.—He was a stoutly built, fairly nourished man, weighing 9 st. 8 lbs.; complexion sallow; conjunctivæ pearly; no œdema; skin pale; no pigmentation. P. 84, R. 18, T. 98°. Tongue furred posteriorly; no pain or discomfort after food; appetite not very good; bowels loose; open five times since admission; stools brown, fluid, containing a little blood. Liver dulness only $2\frac{1}{2}$ inches in V.M.L.; some dulness in flank, which disappeared on change of position; spleen not enlarged. An oval swelling could be felt above Poupart's ligament on the left side; it was badly defined towards the middle line, and apparently passed down into the pelvis; it was tender, and the seat of pain. Heart's apex in the fifth left intercostal space; no murmur. Lungs resonant; breath sounds normal. Urine, 54 oz., sp. gr. 1035, acid, orange coloured, white deposit, consisting of leucocytes and squamous epithelium and granular matter; urea, 1.5 per cent.; a cloud of albumen; sugar, 5 per cent. He was dieted, and given chalk and opium mixture. On this treatment the sugar disappeared from his urine.

Progress of Case.—On the 27th he was put on ordinary diet, when sugar returned at once; his diarrhoea became worse, and his temperature began to be irregular.

On July 31st he was ordered to resume strict anti-diabetic diet.

Aug. 4th. He had a rigor, and his temperature at night was 101.2°. After this his evening temperature was generally over 101°, the sugar was always present, but the quantity of urine remained low.

Aug. 12th. Another tumour was felt to the left of the

umbilicus. The liver had become enlarged, coming down nearly to the umbilicus, where its hard, firm edge could be felt.

Aug. 13th. We discovered that he was throwing away his urine, and he had evidently been evading his diet restrictions for some time.

Aug. 15th. His urine contained only 1 per cent. of sugar.

Aug. 20th. He was made an out-patient, but he only attended once.

Case 7.—Diabetes Mellitus—bronchitis—œdema of trunk and lower limbs—recovery.

Mary Ann M., aged 39, widow, metal button maker, was admitted into hospital on Jan. 8th, 1887, complaining of cough, pain in the back, and swelling of the legs and abdomen.

History.—She had been ill six weeks, the attack commencing with cough. A week ago she noticed her abdomen was swollen, and soon after the legs began to swell. Her breath got very short, and she felt very ill and weak, but she went about until the day of admission. She had been quite strong, except that ten years ago she had rheumatic fever, and for the last five or six years had suffered from a cough in the winter.

Condition on Admission.—There was much cyanosis of the face, hands, and arms, with great œdema of the lower extremities and trunk, but no ascites or hydrothorax. She could not lie down in bed, and her breath was very short and wheezy. P. 114, T. 98°, R. 30. Troublesome cough; no dulness over lungs; breath sounds very wheezy, with moist râles and sibilant rhonchi throughout; vocal resonance undiminished; heart's action regular, no murmur; pulse very small and weak. She had not menstruated for two months, and the flow had been very scanty for some months. Urine 48 oz., acid, 1043, a faint cloud of albumen, 8·3 per cent. of sugar, no blood, no casts, squamous and pear-shaped epithelium in deposit. She was put on strict anti-diabetic diet, with a little morphia for her cough. On this treatment she steadily improved, the sugar diminished rapidly, and the œdema disappeared. She left the hospital on Feb. 21st, free from dropsy and with no sugar in her urine, though it still shewed a faint trace of albumen.

Case 8.—*Diabetes Mellitus—early diarrhœa—intercurrent jaundice—persistence of glycosuria.*

William J., aged 45, blacksmith, attended as an out-patient on June 12th, 1887, complaining of pain in the loins and hypochondrium. His illness began twelve months before with diarrhœa, and three months later this was followed by jaundice. His urine was dark amber, acid, 1026, loaded with sugar, contained a faint haze of albumen and a little bile pigment. This case shews that jaundice from obstruction is not always followed by disappearance of sugar.

Case 9.—*Diabetes Mellitus—following erysipelas—loss of sexual desire—slight polyuria—slight thirst—no knee jerks—no wasting.*

Mr. Paul R., aged 48, consulted me in March, 1888, complaining of diabetes, of which he had been aware for three or four months after an attack of erysipelas supervening in his foot from a cut got by treading on broken glass. The polyuria and thirst were slight, and there was no wasting; his chief complaint was his loss of sexual desire, which seemed to depress him mentally, although he was unmarried. His knee jerks were absent. The urine measured from four to five pints daily, sp. gr. 1029, loaded with sugar.

Case 10.—*Diabetes Mellitus—due to a blow (?)—thirst—polyuria—wasting.*

John B., 54, wire drawer, admitted as an out-patient on March 12th, 1889, complaining of thirst and polyuria. He had been ill six months, and had been treated by brown bread *ad libitum* and codein (gr. i.) three times a day. Just before this illness began he bruised his hip at his work. There was no family history of diabetes, but one of his grandfathers had gout. The quantity of water varied from 4½ to 6 pints, sp. gr. 1032-35, loaded with sugar. He weighed 7 st. On probably the same diet, though he was told to eat bread very sparingly, Jambul perles (Christy) given in as large a dose as 4 three times a day produced no effect; and as much could be said of antipyrin. The quantity of water gradually diminished to three or four pints, and his weight was 6 st. 13 lbs on April 30th, 1889.

Case 11.—*Diabetes Mellitus—polyuria—thirst—wasting—threatening coma averted by spontaneous diarrhœa.*

William S., aged 21, engine cleaner, was admitted into hospital on March 27th, 1887, complaining of thirst, loss of flesh, and polyuria.

History.—His illness began six weeks before with thirst. He had a "low fever" three years ago, and formerly suffered from some kind of urticaria when working as a brass filer. He had always been temperate, and had a comfortable home. Father and mother and all his brothers and sisters alive and well; no history of diabetes in his family.

Condition on Admission.—He was rather deaf, especially in the left ear. He was wasted, and looked ill. Except some dulness and deficient breathing at the left apex posteriorly, the physical signs were normal. Urine 250 oz., sp. gr. 1037, acid, pale straw colour, no deposit, 0·8 per cent. of urea, 6·2 per cent. of sugar, a faint trace of albumen, a few squamous epithelial cells and crystals of oxalate of lime.

Progress of Case.—On March 31st he was dieted and treated with alkalies. His urine fell to half the quantity.

On April 3rd he complained of pains in head and abdomen, seemed drowsy, and had sighing breathing. His bowels, which had been acting once daily, were moved spontaneously four times, and the condition passed off.

He left at his own request on April 18th, and we heard in July that he had died.

Case 12.—*Diabetes Mellitus—polyuria—thirst—wasting—amblyopia.*

Joseph H., 52, admitted into hospital on May 23rd, 1887, complaining of weakness, wasting, giddiness, dimness of sight, and polyuria.

History.—He had been ill since January, 1886. His previous health was very good except for a fever which he had at Walsall twelve years ago. One of his sisters had died of diabetes.

Condition on Admission.—He was a thin man, with a dry, scaly skin; his teeth have been getting loose lately; tongue

dry and furred; thirst great; appetite fairly good; no dyspepsia; bowels always confined; abdomen normal; liver and spleen not enlarged. Heart normal. Lungs normal except feeble breathing at right upper lobes. Ophthalmoscopic appearances normal. He had been a great smoker, using half an ounce of twist daily. For the last nine months he has been unable to read even with spectacles. Knee jerks absent. Urine 248 oz., sp. gr. 1039, acid, straw-coloured, slight mucous cloud, 0.7 per cent. of urea, 8 per cent. of sugar, a very faint haze of albumen, and a few squamous epithelial cells under the microscope. On diet and opium his urine fell to under 100 oz. daily, but he insisted on leaving on June 15th, and was lost sight of.

(*To be continued.*)

PERISCOPE.

THERAPEUTICS.

BY ROBERT SAUNDBY, M.D. EDIN., F.R.C.P. LOND.

The Rationale of Brown-Séquard's Discovery. — In the number of the *Medical Age* for August 26th a plausible explanation is given of the beneficial results attributed by Prof. Brown-Séquard to the hypodermic injection of testicular fluid. Having alluded to the ancient reputation enjoyed by the testicles of various animals as excitors of lust, and shewn by quotations from standard authors that semen contains a basic substance called spermine ($C_8H_{13}N$) which forms salts, of which the phosphate ($(C_8H_{13}N)2H_2PO_4 + 3H_2O$) is the most important (being identical with the substance known as Charcot-Neumann's crystals, seen in sputa, etc.), certain experiments were made with this substance. Hypodermic injections of a solution of hydrochlorate of spermine were markedly beneficial

to an aged cat and an old negro. The article concludes by the following series of questions :—

1. Why do all animals that are continent display excessive energy?
2. Why does excessive indulgence or loss of the seminal fluid invariably weaken the animal?
3. Why is a larger quantity of spermine contained in the generative parts and nervous system than in other organs of the body?
4. Why is this substance found in the sputum or detritus of wasting structures?
5. Why do such marked tonic results follow its replacement?
6. Why do certain kinds of food material, now known to contain this principle, act as decided stimulants, and the evidence of which is usually first discerned in the condition of the generative apparatus?

Use of the Testicles as Reinvigors.—Dr. McCormac, of Mansfield, Oregon, writes as follows to the *Medical News* :—
 “For over twenty years, to the personal knowledge of the writer, and probably for as many centuries, the Chinese have used the testicles of the sea lion for the purpose of stimulating the organs of generation in man and as a general nerve stimulant. A great many sea lions are killed in the immediate vicinity of this place, principally for their oil; but the bristles and penis, with testicles, are sold to agents of the Chinese. The first-named are used for ornaments, but the last two articles are used by them as medicine. At times as many as 150 are seen drying in the sun. When needed, a portion of a testicle is grated into a vessel, and an infusion is made which is administered *pro re nata*.”

The Therapeutic Value of Oxygen Inhalation.—Dr. W. G. Thompson, in the *Practitioner*, August, 1889, thus states his conclusions in a paper on oxygen :—

1. Oxygen is of value in neurotic dyspnoea for the relief of the distressing subjective symptoms.
2. Where there is diminished surface for aëration of the

blood, oxygen improves the cyanosis, lowers the rate of breathing, and relieves the subjective dyspnœa.

3. Oxygen is of value where there is diminished inflation of the lungs from many causes.

4. It is especially beneficial in the dyspnœas of chronic Bright's disease and uræmia, pneumonia, capillary bronchitis, asthma, and catarrhal bronchitis, and sometimes in pulmonary congestion and the early stage of œdema.

5. Great care should be taken to secure chemically pure oxygen.

6. Oxygen may be given freely and abundantly in cases of emergency without fear of any injurious consequences. Ordinarily it is sufficient to give it pure by one nostril, while the other inhales atmospheric air; but it is often best to give it for a few moments by the mouth, or both nostrils, without admixture of air. Oxygen inhalation is of value (1) in general diseases of defective nutrition without regard to dyspnœa, (2) in dyspnœa due to altered condition of the nerves or of the circulation, altered composition of the blood (poisons, etc.), diminished surface for aëration, or feeble expansion of the lungs.

A Method of Treating Pruritus and Irritable Skin.—I have used, with good results, a cone composed of cocoa butter impregnated with 2 per cent. of cocaine. This is rubbed over the part affected. The warmth of the skin melts off a layer of the cocoa butter, which forms a soothing emollient shield over the irritable patch. The remedy has been put up in the form of cones, inclosed in boxwood cases with screw tops, something after the manner of menthol cones. These can be carried about by the patient, ready at any moment for self-application.—Norman Porritt, *Brit. Med. Jour.*

New Germicides.—Dr. E. Klein, F.R.S., has recently investigated some new compounds discovered by Mr. R. Weaver, C.E., F.C.S., of High Holborn. These give promise of great results in the future, as they are non-toxic, and therefore cannot fail to be of interest to the community.

"Creo," the name of the first, contains the active antiseptic principles of certain vegetable and mineral tars. Dr. Klein finds that "used as a 1 per cent. solution in water it kills cholera comma bacilli and typhoid fever bacillus within five minutes.

The next is "Periodate," the chief source of which is sea water, where its elementary parts exist in minute quantity. Dr. Klein says: "The 'Periodate' is a very powerful disinfectant; it kills *instantly* cholera comma bacilli and typhoid fever bacilli when used in one part to 5,000 of water." Therefore "Periodate" proves to be the most powerful of all known chemical agents in killing the micro-organisms of disease. Some further experiments indicate that "Periodate" is a true prophylactic against the virus of variola during the incipient period, either at once arresting development or, if too far advanced before administration, the disease runs a very mild course. If this happy result is confirmed by wider experience, the *vaccination* question, with its attendant agitation, may be considered to be approaching a solution.

SURGERY.

BY GILBERT BARLING, B.S., F.R.C.S.

Œsophagotomy for Foreign Body; Recovery. — McArdle (*Dublin Jour. Med. Sci.*, vol. 85).—The patient, a female aged 48, had for years lived on slop diet owing to the loss of her teeth. She then made an attempt to swallow a piece of beef, which became impacted in the œsophagus at its upper part. When admitted to hospital she was in a very feeble condition, and able to swallow only small quantities of liquid with much difficulty. There was a painful spot between the heads of the left sterno-mastoid, and on deep pressure, a rounded mass the size of a small egg could be felt, with which the left carotid artery was intimately related, and the artery itself was enlarged,

firm, and cord-like. The diagnosis was—impacted foreign body perforating the œsophagus and inflaming the left carotid and its sheath. An incision four inches long was made along the inner edge of the left sterno-mastoid, extending one inch downwards over the sternum. The left carotid was found firmly fixed to the œsophagus and imbedded for two inches in fibrinous exudation. Hæmorrhage from the artery being feared, it was exposed by dividing the sterno-mastoid, hyoid, and thyroid, and a provisional ligature was placed round the vessel above and below the thickening. The œsophagus was now opened on a silver sound, and a piece of bone found fixed in the left wall of the tube. When this was removed, a second piece was discovered lying almost longitudinally. A large drainage tube was placed in the lower angle of the wound, which was plugged with iodoform gauze. Nourishment was administered by enemata for some days, and then gradually feeding by the mouth was resumed, the patient eventually making a good recovery, the only trouble experienced being the discharge of a large quantity of serum and mucus from the wound.

In the same volume Mr. Thomson records two cases of foreign body in the œsophagus. In one the patient tried to swallow a quarter of a pound of beef, and was dead when brought to the hospital. In the second the patient felt a piece of beef stick in the œsophagus, when he went to a hospital and had a tube introduced. He went home suffering much pain, and the neck and face became emphysematous. When admitted to the Richmond Hospital he was suffering from dyspnœa and dysphagia. An attempt to explore brought on such a spasm that it was necessary to desist, and later in the day tracheotomy was done with great relief. It was determined to explore the œsophagus subsequently, but the next morning the patient said the lump had passed down, and that he was able to swallow freely. He died that night. At the autopsy a piece of bone was found transfixing the œsophagus, making a rent through which fluids passed freely into the

posterior mediastinum. A piece of beef two inches long hung from the bone, like a morbid preparation in a jar.

The American Journal of the Medical Sciences for July, 1889, contains an abstract of two cases reported by Hagenbach, in which stricture of the œsophagus was treated by retrograde dilatation when dilatation by the mouth had been unsuccessful in relieving.

The first patient, a man aged 52, the subject of fibroid phthisis, complained of difficulty in swallowing morsels of solid food in July, 1887. In October, only spoon food could be taken, and subsequently only small quantities of fluid. A bougie was arrested 13 inches from the dental arch, and although a bougie was eventually passed through the stricture, it was found that in spite of daily sounding there was a constant narrowing of the stricture. Gastrostomy was performed through an incision parallel to the lower margin of the ribs in the left epigastrium, and the stomach was opened on the fourth day. In a few days, the patient swallowed a shot attached to a thread; the thread was fished out through the gastric fistula and a strong silk ligature tied to it, the thread was then withdrawn, the silk ligature was thus carried through the stricture. To the ligature a No. 7 sound was tied and with little difficulty carried through the stricture, being replaced by larger instruments introduced from below in the same manner. Some time later a sound passed through the mouth, was guided by the sound from below through the stricture, and finally all dilatation was done from above. The gastric fistula was then closed by a plastic operation and the patient left hospital, passing a sound daily himself. The diagnosis of malignant stricture was confirmed on autopsy later.

The second patient, a child aged $8\frac{1}{2}$ years, suffered from stricture of the œsophagus, due to swallowing sulphuric acid, which was for a time successfully treated by dilatation from the mouth. Subsequently this method failed, she became emaciated to a skeleton, the stricture was impermeable, and liquids were regurgitated in toto. The stomach was opened as in last case;

and an attempt was made to swallow a shot on a thread. The shot caught in the stricture, but a loop of thread passed through and this was drawn out through the gastric fistula. By means of this thread a silk ligature was drawn from below upwards through the stricture, and as before, bougies were conducted by the ligature through the stricture. Three months later, a No. 7 soft Nilatson catheter was passed by the mouth, and threaded to this a thicker English sound was guided through the stricture. In a few weeks the gastric fistula was closed. The patient has since been passing daily a No. 15 sound, has no difficulty in swallowing, and has gained 18 lbs. in weight.

Sarcoma of the Tonsil; Excision.—Cheever (in *Boston Med. and Surg. Jour.*, May 23rd, 1889).—The patient, a male aged 57, for one year had to breathe through the mouth on account of enlargement of the left tonsil. In November, 1888, he caught cold, and the tonsil swelled considerably, discharging spontaneously a few days later, and at the same time some enlarged glands appeared in the left neck. Then followed increasing sense of fulness behind the tonsil, increasing dysphagia and difficulty in articulation, with loss of appetite and weight. In January, 1889, the left tonsil projected nearly to the uvula and was as large as a pullet's egg, and there were two glands on the left side each as large as a horse-chestnut.

Under ether, the patient, being in a sitting posture, one incision was made, concave upwards, marking the boundaries of the digastric triangle and a second over the lower jaw at right angles to the middle of the first. The mylo-hyoid muscle was now divided and the other tissues pushed to one side. The lower jaw was then sawn in two in front of the masseter muscle. The tumour was pressed out by a finger in the mouth and was found to be covered with a delicate capsule, and tumour and capsule were removed without great difficulty. There was no hæmorrhage, and the facial artery and the external jugular vein were the only vessels ligatured. A gland in front and one behind the sterno-mastoid were removed. The jaw was wired, the pharynx left unsutured and the external wound only partly

sutured. Healing took place well, the jaw being firmly united in 30 days. Four months later a second operation was performed for a large glandular mass in the anterior carotid triangle. Both growths were round-cell sarcomas.

Carcinoma of the Tonsil; Excision.—(Fowler, *Brooklyn Med. Journal*, Sep., 1888).—The patient, a female aged 67, nine months previous to admission noticed an enlargement of the left tonsil which interfered with deglutition. A small portion of the tumour was removed for microscopic examination, and though no positive conclusion could be drawn from this, the patient was urged to have the growth removed. To this however she would not consent until some months later, when the tumour was about the size of an English walnut, lobulated and somewhat movable. There was also enlargement of the lymphatic glands beneath the posterior border of the sterno-mastoid. Ether having been administered and the patient's head well extended and turned to the right, one incision was made, commencing just below the lobe of the left ear and extending downwards and forwards along the anterior border of the sterno-mastoid to a little below the level of the hyoid bone; a second incision, commencing about half way between the angle of the inferior maxilla and the symphysis menti, was carried downwards and backwards to meet the lower angle of the first incision. The triangular flap thus marked out was dissected up, the external jugular vein, the facial and lingual arteries being ligatured. The stylo-hyoid muscle was then divided and it with the digastric and adjacent vessels and nerves were retracted downwards and backwards, the mylo-hyoid being pulled forwards. Two fingers passed into the mouth projected the tumour externally beneath the angle of the jaw, where it was secured with a stout ligature. By means of the thermo-cautery the tonsil was removed, the hyo-glossus, the superior constrictor and the mucous membrane being divided, and this part of the operation was accomplished practically without the loss of any blood. The lymphatic glands were next removed, with great difficulty, as they were adherent to the sheath of the common carotid. The wound was irrigated,

the stylo-hyoid sutured, a drainage tube inserted behind the angle of the jaw, and the wound was sutured. The first dressing was removed at the end of a week, there being very little discharge, and the patient left the hospital at the end of about three weeks. Eight months afterwards there was recurrence in the parotid of the left side and secondary deposit in the right parotid, with symptoms pointing to a similar condition of the stomach, of which she ultimately died.

Tracheotomy for pressure of Abscess on the Trachea. Ulceration of the tube into the Innominate Artery.—(Maylard, *Annals of Surgery*, March, 1889).—The patient, a child aged 8, was admitted into the Western Infirmary, Glasgow, with an anterior curvature of the spine in the cervical region, associated with difficulty of swallowing and laboured breathing. Stridulous breathing and marked retraction of the thoracic walls led to tracheotomy being performed, which was done with difficulty, and as the ordinary tube did not reach below the obstruction a special tube was made out of a gum elastic catheter, which was passed two and a quarter inches down the trachea, and this tube was later replaced by one of similar dimensions made of vulcanite. The patient was able to do without the tube for short intervals, but later he contracted scarlet fever, and about five months after the operation was seized with profuse hæmoptysis and died the same day. At the autopsy an abscess was found in connection with the lowest two cervical and the first two dorsal vertebræ, extending in front and to the left of the trachea as high as the clavicle. An opening was found into the innominate artery, which was intimately adherent to the trachea. The distance between the perforation into the artery and the tracheal wound was two inches.

Successful operation for Ankylosis of Jaw.—(Campbell, *Glasgow Med. Journal*, Sept., 1889).—When the patient was six years old he had a severe blow on the right side of the face from the shaft of a cart, which probably caused a fracture of the base of the skull. The jaw was said to be broken and a bandage was applied. This was removed at the end of six weeks when the

jaws were found firmly closed and have remained so ever since, that is for 22 years. The patient is sparsely nourished, and lives mainly on liquid food; the lower jaw is imperfectly developed, it is firmly closed and no movement can be made out at either articulation. There is right facial paralysis and deafness. Attempts at opening the mouth by the use of wedges failing, the patient was anæsthetised and screw gags used, with no result, except that of demonstrating slight mobility on the left side. An incision was made on the right side extending from a point a little external to the margin of the orbit, downwards and backwards, parallel to the lower border of the zygomatic arch for a short distance, then directly downwards over the ramus of the jaw for about an inch; the temporal artery was thus avoided. On clearing the soft parts from the bone there was no demarcation between the jaw and the temporal bone; the zygomatic arch, the condyle and the coronoid process were all fixed together. The posterior border of the ramus having been defined, the parts representing the condyle and the coronoid process were chipped away with a chisel until a gap of about $\frac{1}{4}$ inch was left between the skull and the ramus of the jaw. The jaws could now be forced apart to the extent of an inch. Passive and active movements were allowed on the third day, and three months after the operation the patient could eat solid food of any kind, the interval between the jaws being then about an inch.

REVIEWS.

RESPIRATORY FUNCTIONS OF THE NOSE.*

WE have here related, in detail, various experiments on the changes which take place in air as it passes through the nasal cavities; changes in temperature, in moisture, and in the proportion of carbon di-oxide are investigated, with the view to enforcing, by an appeal to experimental physiology, the true importance of nasal respiration. The enquiry appears to have been very ingeniously carried out, but yet with simplicity, so that there is little difficulty in understanding, or if desired, in repeating the experiments.

The conclusions arrived at are :—

1. However cold the atmospheric temperature, the air is raised almost, if not quite, to the temperature of the blood, on passing through the nose alone, and before reaching the pharynx.
2. However dry the external air may be, on passing through the nose it is completely saturated with moisture.
3. Gaseous exchanges take place in the nose between the gases of the blood and those of the air, just as in the lungs, and that to a not inconsiderable extent. Moreover, the quantity of carbonic acid exhaled by the nasal mucous membrane is proportionate to the number of degrees in temperature to which the air is raised.

It appears also that in anæmic subjects these changes in the air are less than those taking place in the robust. There is a short chapter devoted to the structure and function of the inferior turbinated bone and a final one to the relation of the

* Respiratory Functions of the Nose. By Greville MacDonald, M.D.
London : Alexander P. Watt.

physiology of the nose to certain pathological conditions. In this last, attention is drawn to the frequency with which hypertrophy attacks the structures within the nose, producing conditions which are well defined from those of an inflammatory nature. The explanation of this is based upon the experimental observations previously related, where it was shown that when from any cause there is difficulty in nasal respiration, then the amount of moisture absorbed by the air is considerably increased, owing to the diminished barometric pressure. It is argued from this that when the barometric pressure within the nose is reduced by any obstruction, all the blood vessels become overdistended and hypertrophy follows from the increased blood-supply.

The argument of the last chapter is summarised as follows :—
“As a necessary consequence of physical laws and from the teaching of direct experiment, it follows that where we have obstruction to the free access of air to the respiratory passages, there we have diminished air-tension. When the walls of this partial vacuum are yielding, their collapse probably tends to minimise the ill effects that would otherwise accrue. But where, as in the nose, the walls are rigid, all the blood vessels lining them become over-filled, and a state of hyper-nutrition is induced, which in its turn tends to the increase in bulk of one or more of the tissues so affected.”

We can strongly recommend this little book to the notice of our readers.

SKETCHES OF HOSPITAL LIFE.*

THESE sketches are no doubt intended to popularise certain aspects of hospital work and to interest the public in them, while at the same time the author takes the opportunity to point

* Sketches of Hospital Life. By Honnor Morten. London : Sampson Low, Marston, Searle, and Rivington, Limited. 1888.

out those matters in which reform is desirable. It is a very readable little book, the only thing to complain of being the somewhat hysterical description of nurses. On page 39 a matron is made to say: "Nearly all my best nurses have histories, and it seems to me that only those who have suffered themselves can properly aid the sufferings of others." Of course everyone has a history, and those who have suffered are more tender for the suffering of others, but the suggestion that a large proportion of hospital nurses are the heroines of unwritten romances is really a libel upon a very respectable and commonplace body of women.

In the sketch called "Jessie's Story," Jessie is a nurse who lets the man she loves die from opium-poisoning because he had taken to drinking. "Her strong, simple self said—'Let him die,' though she could have saved him. This is not the rule of conduct for anyone who claims to be a son or daughter of Æsculapius. It is not for us to discriminate between the vile and worthless and the good and noble, but to save life whenever and wherever we can. We hope the author's practice is better than her preaching.

THE SKIN DISEASES OF INFANCY AND EARLY LIFE.*

WE should not *a priori* have suspected the necessity for a book devoted to the skin diseases of children; and the existence of this work of 200 pages has certainly done nothing to excite such suspicion. Dr. Campbell seems to have been inspired to write it by the want he believes to exist of a book on the subject,

* The Skin Diseases of Infancy and Early Life. By C. M. Campbell, M.D., C. M. Edin. London: Baillière, Tindall, and Cox. 1889.

of intermediate size between the special works on skin diseases and the more or less elaborate articles in the general treatises on the practice of medicine or surgery. It is written in the interests of the busy practitioner, who may "mar a professional reputation by an inaccurate opinion." If the prevention of such a calamity be desired, it would more surely be attained by reference to standard text-books than by reliance on the same books strained through the sieve of Dr. Campbell's experience. It would be difficult to say of any skin diseases, excepting strophulus or congenital diseases, that they were peculiar to infancy and childhood; and it is clearly undesirable to endeavour to establish any such distinction.

ANATOMIE TOPOGRAPHIQUE DU DUODÉNUM ET HERNIES DUODÉNALES *

THIS little book contains an interesting account of the duodenum, its peritoneal and general relations and mode of fixation. The portions, however, likely to be of most interest to medical men in general are those which deal with the peritoneal pouches in relation with this portion of the gut and the herniæ with which they may be connected. On both of these subjects full information is given, a good historical account of the subject of retro-peritoneal hernia forming a part. Clinically their symptoms appear to be somewhat indefinite, as they manifest themselves chiefly by gastric or intestinal troubles, such as colic, dyspepsia, arrest of fæcal matter leading to hypochondria, frequent vomiting, and the like.

* Anatomie Topographique du Duodénum et Hernies Duodénales. Par Jumesco. Paris: Aux Bureaux du *Progrès Médical*. 1889.

THE PHYSIOLOGY OF THE DOMESTIC ANIMALS.*

DR. MEADE SMITH will doubtless earn for himself the gratitude of veterinary students, for whom he has prepared this handsome volume, consisting of over 900 pages and containing more than 400 illustrations. Already provided with works on veterinary anatomy, such as that of Chauveau translated into English, they were without an animal physiology in the same tongue. The work under review seems well adapted to fill the vacant place. It has evidently been carefully prepared by one who has made himself familiar with his subject as a student and a teacher. To non-veterinary physiologists the book is also likely to be of use as a work of reference. The general reader will be interested in the account given of the physiology of motion, and especially in that part which relates to the vexed question of the paces of horses, which is enriched with figures from Colin and with a number of illustrations taken from the work of Mr. Eadweard Muybridge, whose observations have recently excited so much attention on both sides of the Atlantic.

TOOTH EXTRACTION.†

WE cannot quite see the purpose of this little pamphlet, and do not know whether it is intended to be a guide to medical men or dentists, but presume the former, as the dental student is compelled to attend two years' dental hospital practice before he can present himself for his examination, where he daily witnesses and performs all the operations incidental to dental surgery.

In the majority of large hospitals at present there is a dental

* *The Physiology of the Domestic Animals.* By Robert Meade Smith, A.M., M.D. Philadelphia and London: F. A. Davis. 1889.

† *Tooth Extraction: A Manual on the Proper Mode of Extracting Teeth.* By John Gorham, M.R.C.S. Lond.

department under the charge of one or more duly qualified dental surgeons, from whom the medical student can obtain the necessary knowledge and practical experience to enable him to become an expert operator; and as the future of many a man will be cast in remote country districts, probably far removed from the services of the professional dentist, it is absolutely necessary that he possess a fair knowledge of tooth extraction. Beyond that, we would give the author's own advice on page 31: "The surgeon would relieve himself of anxiety, and save time, by passing his patient into the hands of a professional dentist."

Letter to the Editor.

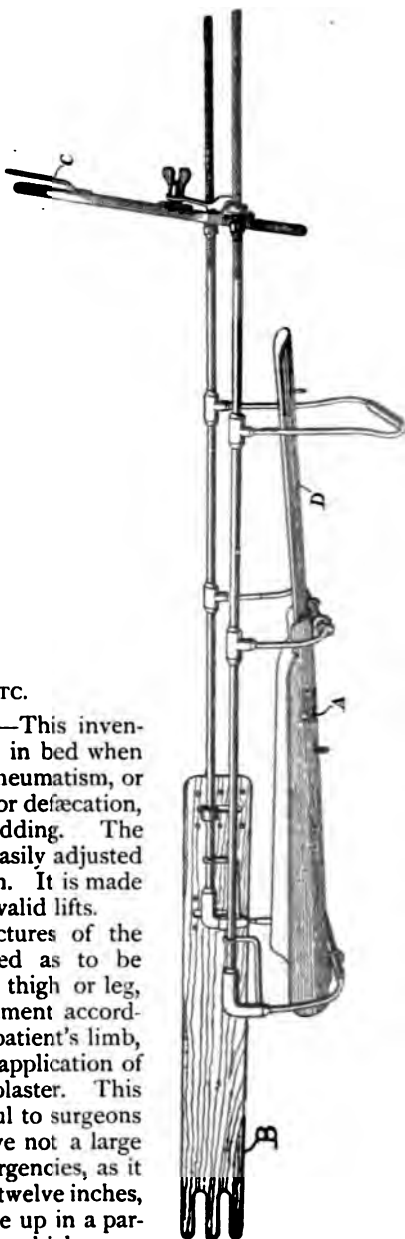
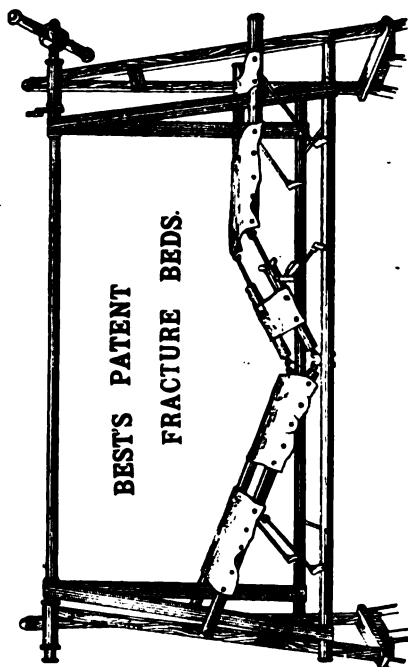
Edgbaston, Sep. 16, 1889.

To the Editor of the "Medical Review."

Sir,—In the *Contemporary Review* for August there is an article from Sir Morell Mackenzie on "Song." In this month's number Mr. Lennox Browne charges him with being misled by "apocryphal authority," meaning me. The Editor refuses to correct this error. The following extract from Signor Garcia's "Singing School" will show that Mr. Browne is the "apocryphal authority," not myself. "Raise the chest by a slow and regular motion, and draw in the stomach." The old school of song always used breath in varying states of compression; in the false method advocated by Mr. Browne compression is impossible. It is a pity physiologists and natural physicists do not settle this point while direct art evidence is obtainable. The school that produced Grisi, Mario, Alboni, Rubini, Malibran, Jenny Lind, etc., is the school of which I write; the school that produces Herr Emil Behnkes, etc., is the school of which Mr. Browne writes.

I am, yours truly,

CHARLES LUNN.



NEW INVENTIONS, ETC.

BEST'S PATENT FRACTURE BED.—This invention is designed for lifting patients in bed when they are suffering from fractures, rheumatism, or paralysis, and require to be raised for defæcation, wound-dressing, or change of bedding. The apparatus is light, portable, and easily adjusted to the patient without disturbing him. It is made in two less complicated forms as invalid lifts.

BEST'S Patent apparatus for fractures of the lower extremity can be so arranged as to be available for fractures either in the thigh or leg, or both, it admits of exact adjustment according to the length and width of the patient's limb, and is an important help in the application of moulded splints, either starch or plaster. This splint will be found especially useful to surgeons practising in the country who have not a large stock of apparatus to turn to in emergencies, as it admits of elongation to the extent of twelve inches, and when not in use it may be made up in a parcel thirty inches by twelve, and three thick.

THE MICROSCOPICAL EXAMINATION OF URINE.—We desire to draw the attention of our readers to the improved pattern of urinary pipette which Messrs. Philip Harris and Co. now supply. They are made of thick glass, so that they do not break easily, with a small bore, so that they take up a few drops of fluid only, and thus are much more selective than the older form. We strongly recommend their use to all who desire to make microscopical examinations of urinary sediments.

Miscellany.

CHINESE OBSTETRIC CUSTOMS AND SUPERSTITIONS.

Dr. A. M. Fielde (in the *Philadelphia Medical News* for August 24th.) writes interestingly on facts and superstitions concerning pregnancy and parturition as observed at Swatow, China. Nearly all the Chinese women maintain a sitting posture during labor and delivery. A few are unable thus to bring forth the child, and these are called "recliners."

The umbilical cord is never divided until after the emergence of the placenta, because it is supposed that this would cause the contents of the womb to rise and remain among the internal organs, causing speedy death. After the appearance of the placenta the cord is tied by a thread, about one inch from the umbilicus: a loop is made by bringing the distal portion toward the body; a second knot is tied securely upon the first over the double cord, "to prevent the entrance of wind," and the cord is then cut near the second knot. The part of the cord left with the placenta is not tied.

If there is much delay in the expulsion of the secundines, various methods are pursued in assisting the patient. The mother-in-law or midwife goes behind the house in which the patient lies, raps smartly with a carrying-pole on the wall, and shouts, "Is it out yet?" An assistant responds from inside the house, "It is out." This performance is repeated, with short intervals, until the desired result is effected.

Another method of hastening the expulsion of the afterbirth is to have the patient lean over a horizontal bar, supporting herself partially upon her hands. This sometimes starts the adherent placenta, but is discomforting to the attached infant. Some midwives insert the hand and detach the placenta, but mothers greatly fear this operation. It is asserted that one woman had her liver pulled out by the attending midwife, and consequently died. Native male physicians are under no circumstances called in cases of childbirth.

A girl that is born face downward, or one that is guilty of micturition or defecation immediately after birth, is straightway smothered, because of a superstition that such a child would be injurious to its parents.

A pregnant woman is advised not to handle edged tools. If she does so her offspring is likely to lack a finger or a toe, or to have a harelip or a split ear.

Two pregnant women will not sit together on the same bench. As each woman hopes that her child is a male, and as it is thought that there may be an occult exchange of sexes between embryos that are brought into vicinage, it is considered wise to avoid the risk of having the supposed masculine tenant of the womb superseded by a female.

If a child has been touched by a pregnant woman, and sickens soon afterward, its mother winds a skein of silk made up of threads of five colours

around a potato and roasts the potato in ashes. If the silk is burned during the process of roasting, it indicates that the ailment was not caused by the touch of the pregnant woman. But if the silk is not burned, as sometimes happens, then the mother of the injured child throws the potato over her house, and it is believed to produce a miscarriage in the woman who has caused the disease, while the sick child recovers.

Many men have purses made by women approaching confinement, hoping that the woman's plethoric condition will be mystically reproduced in the money-bag!—*Boston Medical and Surgical Journal*.

New Books, etc., Received.

- Hygiene and Public Health. By LOUIS C. PARKES, M.D., D.P.H. Lond. London: H. K. Lewis. 1889.
- The Ptomaines, Leucomaines, and Extractives; their position as possible Originators of Disease. By A. S. UNDERHILL, M.D., B.A., M.Ch.: D.P.H. Camb. Reprinted from Public Health. London: W. B. & L. Collingridge.
- Report on the Health of the Borough of Birmingham for the quarter ended June 29th, 1889. By ALFRED HILL, M.D., F.I.C. Birmingham: George Jones and Co.
- The Human Foot, its Form and Structure, Functions and Clothing. By THOMAS S. ELLIS. London: J. and A. Churchill. 1889.
- Outlines of the Clinical Chemistry of the Urine. By C. A. MACMUNN. M.A., M.D. Dub. London: J. and A. Churchill. 1889.
- On Bedside Urine Testing. By GEORGE OLIVER, M.D. Lond., F.R.C.P. Fourth Edition. London: H. K. Lewis. 1889.
- Notes on Medical Education. By SIR JAMES SAWYER, Knt., M.D. Birmingham: Cornish Bros. London: Simkin, Marshall and Co. 1889.
- On the Relation of the Heart and Blood in Animals. By WILLIAM HARVEY, M.D. Willis's Translation, revised and edited by Alex. Bowie. M.D., C.M. London: George Bell and Sons. 1889.
- The Principles and Conditions of Artificial Feeding. By W. B. CHEADLE, M.A., M.D. Cantab., F.R.C.P. London: Smith, Elder and Co. 1889.
- The Various Manifestations of the Rheumatic State. By W. B. CHEADLE, M.D. London: Smith, Elder and Co. 1889.

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THE
BIRMINGHAM MEDICAL REVIEW.

NOVEMBER, 1889.

ORIGINAL COMMUNICATIONS.

THE TREATMENT OF SCIATICA.

BY R. M. SIMON, M.D. CANTAB., M.R.C.P. LOND.

SENIOR ASSISTANT PHYSICIAN, GENERAL HOSPITAL, BIRMINGHAM.

IN November, 1888, I was called to see a practitioner living in a very bleak part of Staffordshire, and suffering acutely from sciatica. For over six months he had been more or less incapacitated from doing his work, as he suffered a great deal from pain which prevented his sleeping well, and could only with great difficulty get into his open gig to visit his patients. When I saw him he was very miserable, worn out with pain and sleepless nights, and in despair of obtaining any permanent relief. He had pretty well exhausted the resources of the Pharmacopœia, and, being gouty, had used alkalies and colchicum freely. He had improved somewhat after a visit to Droitwich in the summer, but during the last few weeks had got much worse and had become quite unable to get about to do his work. We agreed that he should take five grain doses of antifebrin and iodide of potassium three times a day; and I heard in a few days that he had slept well and comfortably for the first time for several months. He did not make any progress so far as the pain and lameness were concerned; and a month later I received an urgent telegram to go and see him. When moving in bed that morning he had been suddenly seized with a terrible pain in the leg, about the middle of the thigh, and

up to the time I saw him, at about mid-day, had remained lying across the bed in the greatest agony. About one grain and a half of morphia had been injected with only partial relief. There was a very slight fulness over the middle of the thigh where the pain was most acute, and the nerve throughout its course was very tender. Four leeches were applied, and the bleeding was allowed to continue for nearly 24 hours. As the bleeding went on, the pain decreased; he had a good night, and woke quite free from pain. His lameness gradually disappeared, and within a month he followed the hounds on foot near Droitwich, where he had gone to take the baths and complete his cure. The effect of the leeching was magical; and though he took no more medicine, the cure was complete, and up to present date there has been no recurrence, despite his continuing to drive about in all weathers in an open carriage. The rapid transition from the most awful pain to a state of good health and walking power was most remarkable.

Sir Joseph Fayrer, in the April number of the *Practitioner*, 1886, records a somewhat similar case which occurred in his own practice. "The pain," he says, "had lasted for some years, and was very severe, continuous, liable to increase, and of a paroxysmal character. The posterior muscles of the thigh were somewhat atrophied. The patient was wasted and worn by continuous suffering and deprivation of rest and sleep. All the usual methods of treatment had been resorted to, but without relief. On examining the limb carefully, he detected, with some feeling of fluctuation, a fulness and tenderness in the course of the sciatic nerve near its origin in the upper part of the limb. He therefore introduced a long narrow knife into the swelling until it entered the sheath of the sciatic nerve. This gave exit to a certain quantity—a couple of drachms or so—of clear serous fluid, which was followed by immediate relief of suffering, and rapidly resulted in complete recovery." He thinks it possible, therefore, that the success often following acupuncture in cases of deep-seated pain may sometimes be due to the relief of tension caused by evacuation of fluid which

has accumulated as a result of inflammation in large or small nerve trunks.

My case differed in no respect, except its severity and immediate cure after leeching, from any ordinary case of sciatica occurring in a gouty man. From its onset to its termination the pain was continuous, unless the part was kept at rest in such position as to avoid painful tension of the nerve. The nerve itself was tender when pressed, and there were several anæsthetic spots in its course, notably on the foot.

These two points are, as Gowers shews, of the first importance in excluding neuralgia as the cause of the pain, and assigning it to its real cause—a neuritis of the sciatic nerve. He says: “The subjects of neuralgia have often suffered from neuralgia elsewhere, and are generally weakly and anæmic. The pain is from the first spontaneous; posture has little influence upon it; movement is not itself painful, although it may excite paroxysms of pain. The pain is referred to the branches and distribution of the nerve rather than to its trunk, and tenderness of the nerve, if it exist, is altogether subordinate to the spontaneous pain.”

It has always been recognised that neuralgia of the sciatic may occur in people of impaired health, especially such as have suffered from neuralgia elsewhere. The treatment of such a sciatica is no way different from that of ordinary neuralgia; *i.e.*, constitutional conditions, such as gout, anæmia, malaria, must be attended to, and counter-irritation, best in the form of the actual cautery, must be applied along the course of the nerve. Pain along the sciatic may also be due to tumours in the pelvis pressing on the nerve, and can only, if at all, be relieved by surgical interference. These two rare conditions, neuralgia and pelvic pressure, being excluded as causes, there remains that vast proportion of cases of sciatica which are due to neuritis to be dealt with. It is possible to deduce additional arguments from the result of treatment in favour of the neuritic theory. Antipyrin and antifebrin, which are of the utmost value in relieving the pain associated with such well-marked

conditions of inflammation of the posterior nerve roots as locomotor ataxy and herpes zoster, are equally useful in dealing with the pain of sciatic neuritis; it is therefore reasonable to infer a similar origin to all pains, which are relieved by the same drugs that give so much relief in the better known conditions of neuritis.

It is essential in every case to prescribe complete rest of the limb, and most cases if treated in this way with the addition of hot linseed meal poultices along the affected nerve will soon get well.

As by far the majority of cases of sciatica occur in people of gouty habit, and may be attributed to cold, it will be advisable, in addition to rest and poulticing, to order saline purgatives, and iodide of potassium in five grain doses together with a similar amount of antifebrin. So treated an early case will usually soon improve, but despite of treatment it may sometimes run on into a chronic form and present greater difficulties. Unfortunately, to these must be added the more frequent cases in which medical assistance has not been invoked until the disease has become chronic. All sorts of drugs have been used in this stage, but with the exception of iodide of potassium and antifebrin I have found benefit from none of them. Salicylate of sodium especially has been fully tried, but in my hands without avail.

Hypodermic injection of morphia or cocain will often give relief to the pain, but have no curative tendency. Sedative liniments have only temporary value, and are rarely of service.

If there be fulness at any part of the nerve acupuncture or leeching, as in Fayer's case and my own, may be tried; and failing these, massage and electricity must be used.

Faradism may be useful when the disease is cured to restore the tone of the atrophied muscles, but it is harmful rather than serviceable in an early case. Galvanism only should be used while pain exists, and best in the way recommended by Dr. Steavenson, the electrician to St. Bartholomew's Hospital, in the *Lancet* of Jan. 19th, 1884. The patient is allowed to lie on his bed, and only the back of the affected leg uncovered. A

wet pad of metal and amadou connected with the positive pole of a Coxeter's constant current battery is to be placed on the abdomen, and held in position by the patient. A carbon disc electrode covered with chamois leather connected with the negative pole is moved gently up and down over the course of the sciatic nerve. The skin is to be previously moistened with warm salt and water, as also are both electrodes.

In a further paper in the *Lancet* of July 17th, 1886, Dr. Steavenson records the result of his treatment of 61 cases by galvanism:—37 were cured, eleven improved, 9 were lost sight of, 2 were unrelieved, and 2 were still under treatment at the time of writing. The two unrelieved cases were due, the one to extensive necrosis of the ischium with a sequestrum of dead bone, and the other to the presence of a displaced uterus. Of the cured cases 25 needed only from one to nine applications of the battery, and none of the others needed more than fifteen visits. These results are remarkable, and the good derived greatly in excess of that attained by less accomplished electricians. They should be an encouragement to persistence in our use of galvanism, and certainly it should be most thoroughly persevered with before resorting to the more drastic remedy of stretching the nerve.

In a paper in the *Practitioner* of November, 1887, Dr. Eccles records his experience with massage. Except where the sciatica was a manifestation of general neuralgia, his results were excellent; and he concludes that, with the exception of incision of the sheath of the nerve, there is no mechanical process whereby the products of inflammation can be so directly removed as by direct massage of the affected limb.

Eichhorst has shewn that the nerve sheath contains blood vessels and lymphatics, while between the lamellæ of the perineurium there are lymph spaces which can be injected from the lymphatics in the vicinity of the nerve trunk. In cases of neuritis, wherein the pathological conditions are great distension of the blood vessels and lymphatics of the epineurium and a corresponding dilatation of the perineuritic lymph spaces, Dr.

Eccles thinks it is not unreasonable to suppose that much of the acute suffering in sciatica is due to the pressure of the abnormally increased fluid within the nerve sheath upon the nervi nervorum with which Mr. Horsley has shewn it to be endowed; and he hazards the suggestion that the degeneration of the nerve fibres is due in many cases to the interference with their nutrition by the oedema within and the stagnation without the affected nerve sheath.

He recommends that the process should be initiated by as vigorous kneading as the patient can bear of the whole circumference of the limb, as far away above the focus of the disease as possible; in other words the proximal lymph trunks and spaces above the seat of the mischief should first be unloaded; and if this is achieved the measurement of the limb should, after massage, reveal some slight diminution in the circumference. Then, either on the same occasion or at the next sitting, the manipulations should be practised nearer to the affected part, and as soon as may be the part itself, indeed the whole limb should be dealt with so as to induce and maintain a more rapid circulation both of blood and lymph through the vessels, thus at the same time encouraging a more frequent renewal of nutrition and a more rapid absorption of effete material. During the course of the treatment rest in bed is enforced, and the leg is swung in a Salter's swing.

The suggestion of Sir Joseph Fayrer as to the cause of the occasional good derived from acupuncture, and the benefits derived from massage all tend to make it very probable that Dr. Eccles' theory is correct, and the case above recorded is a further support to his view that the pain and neuritis may be due to the pressure of the abnormally increased fluid within the nerve sheath. The theory is a hopeful one, it opens up a prospect of relief in some of the most obstinate cases, while it may fairly be said to be a most powerful argument for the thorough local treatment of sciatica.

One other method only remains to be mentioned—namely, nerve-stretching. Gowers suggests that it acts by effecting an

energetic counter-irritation and enforcing a beneficial rest, but it seems more probable that its chief value lies in the release of the nerve from adhesion. It should always be done as a *dernier ressort*, and except where the disease is due to organic disease in the cord or the pelvis will almost certainly do good.

It is not a process to which patients will submit until other means have been tried and have failed, but as has been proved by large numbers of cases it will always relieve and often completely remove the pain and its effects.

CASE OF INCONTINENCE OF URINE DUE TO PERSISTENCE OF GAERTNER'S CANAL.*

BY ANNIE E. CLARK, M.D. BERN.

PHYSICIAN TO THE WOMEN'S HOSPITAL AND CHILDRENS' HOSPITAL,
BIRMINGHAM.

A. H., æt. 14, came to me at the Out-patient department of the Birmingham Women's Hospital in September, 1883. Her mother said she had not noticed that the child suffered from incontinence of urine, until she was six years of age. At that time she had scarlatina, and on her recovery the mother found the girl sometimes wetted her bed, and also got wet by day, but at that time a week might pass without either being noticed. As she got older the dribbling by day became worse, but it has never been constant at night, two nights or even a week might pass without its occurring. As no cause for the incontinence could be detected, although the strong urinous odour and reddened and roughened condition of the vulva showed it must be constant, the girl was admitted by Dr. Savage into the Hospital at Sparkhill, to be more thoroughly examined under an anæsthetic. Ether was given, and whilst coughing from its effect, a fine stream of urine was seen to come from a small papilla about an eighth of an inch below and to the right of the urethral orifice. The

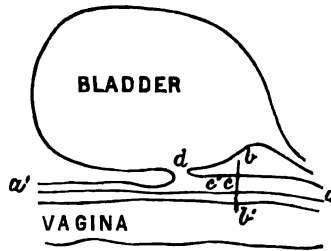
* Paper read at the British Medical Association, Glasgow, August, 1888.

opening into this papilla was too small to admit the finest probe, but on the papilla being snipped half way through, a probe passed without difficulty into a passage from which urine escaped in drops, or when the girl coughed, in a fine stream. The probe passed easily about two and a half inches along this passage, taking a course slightly to the right of the urethra, but it could not be passed further than this. The girl remained in bed a few days, and whilst she did so the incontinence appeared to have ceased, but on getting up it was as bad as ever.

In December she was again examined under ether. A No. 12 catheter was passed as far as the probe had previously gone along the passage, and milk and water injected. The passage was felt to dilate beyond the catheter like a large distended varicose vein. The catheter becoming choked, was withdrawn, and after slightly enlarging the opening into the passage a No. 9 catheter was introduced and milk and water again injected; the passage dilated as before beyond the catheter, and then suddenly collapsed, and, although half a pint of milk and water was rapidly injected through it, the passage did not dilate again; towards the end of the injection it was noticed that the vagina was filling with milk. A catheter was then passed into the bladder and about the same quantity of milk and water was withdrawn as had been injected. Milk and water was again injected through the passage to see where the fluid entered the vagina. A very fine stream was detected escaping through the roof of the vagina rather beyond the point to which the catheter would pass. Dr. Savage then cauterized the orifice of the passage on the chance that the contraction set up might close it. During the time the patient remained in bed the incontinence ceased, but returned directly she got up.

The girl was readmitted into the Hospital Feb. 5th, 1884, Dr. Savage kindly leaving the case to my care. My intention was to dissect out the lower end of the passage and turn it into the bladder, this having been the method adopted with success in a similar case published in the *New York Med. Jour.* for Dec., 1878, by Dr. W. H. Baker, of Boston, but as this course

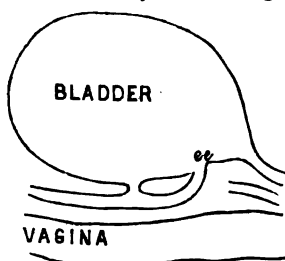
was objected to by some of the staff, as likely to lead to further complications, it was not done, but the passage was dissected out for half an inch, the orifice pared and the end inverted and closed with sutures. The patient remained in bed ten days and had the water drawn off during that time with a catheter, but on getting up, the incontinence was as bad as ever.



- a a'* Abnormal passage.
- b b'* Line of incision through vaginal wall and abnormal passage.
- c c'* Portion of passage freed by dissection.
- d* Natural opening between bladder and abnormal passage.

In Nov., 1885, the girl again came to the out-patient department asking if something more could not be done, as the incontinence prevented her earning her living. She was admitted into the Hospital. The condition of the passage was found to be unchanged. On distending the bladder with milk and water, little, if any, returned by the abnormal passage, but milk, injected through the passage, passed into the bladder. It was decided the operation adopted by Dr. Baker in his case should now be done. The passage was first cut across about an inch and a half above the orifice, the upper cut end was then carefully freed by dissection for a third of an inch; a sound passed into this was found to enter the bladder a little distance beyond the highest point to which the dissection was carried, its free end being felt by a finger in the bladder. An attempt was made to invert the dissected portion of the passage into the bladder through this natural opening, but without success. An incision was therefore made into the bladder at the level of the first incision in the vaginal roof, and the free edges of the upper cut end of the passage were stitched to the opposite margins of the

incision with two fine silk sutures. The wound in the vaginal wall was then closed with three wire sutures. A catheter was tied into the bladder and left for a fortnight, the wire sutures were then removed, and two days later the girl was allowed to get



ee Position of sutures stitching passage to mucous membrane of bladder.

up. She was found to be quite free from the incontinence both by night and day, and continued so until the second catamenial period after the operation, when the incontinence returned by night but not by day. As this persisted the bladder was explored with a sound, as it was thought the silk sutures, which had never been seen to pass although carefully looked for, might be causing irritation, but nothing was felt in the bladder. The bladder was then injected with milk and water none of which escaped into the vagina, nor could the abnormal passage be detected, showing that the operation had successfully closed it and that the incontinence was no longer due to its patency.

The girl was ordered a mixture containing strychnine, cantharides, and belladonna. At the end of a month she reported herself better, but not quite free from her trouble. She then ceased attending the hospital, and was lost sight of until November, 1887, just two years from the last operation. She then said that soon after her last attendance at the Hospital the incontinence entirely ceased, and she had never since had any return of it.

Dr. W. H. Baker in his paper looks upon his case as an example of a malposition of the left ureter or of a supernumerary ureter, but admits there is a difficulty in its being the left ureter, from the small amount of urine which escaped from it in

comparison to that passed in the natural way from the bladder. They may be cases of persistent Wolffian Duct, having an abnormal connection with the kidneys and bladder. In the case under my care the passage clearly went beyond the vagina, for although the probe and sound would not pass more than two and a half inches, the passage was distinctly felt to dilate, when injected with milk, beyond this point, until it was lost passing through the vaginal roof. It was never quite clear that any milk returned from the bladder into the passage, although milk injected through the passage passed as readily into the bladder as if it had been injected by the urethra. This points to the opening between the bladder and passage having been valvular, and may explain why the incontinence varied, being less constant by night and in bed than when moving about.

NOTES ON A CASE OF SCARLATINA OCCURRING AFTER OPERATION.

BY A. S. UNDERHILL, M.D. M.CH., D.P.H. CAMB.,
SURGEON TO THE GUEST HOSPITAL, DUDLEY.

It is considered by some observers that when Scarlatina follows a surgical operation, or after labour, the type of the disease is modified in a specific manner, and that the stage of incubation is abnormally hurried. This has been noted by Paget after lithotomy and by Hicks after labour. Some observers have even gone so far as to state that the disease is *sui generis* and not a true scarlatina; my own experience and observation have led me to consider that all cases of scarlatina following any accident, or where there has been a breach of the surface, *e.g.*, after burns, operation, and labour, are scarlatina pure and simple, and that the type is no more modified than is usual with scarlatina under ordinary circumstances. It is true that in several cases which I have investigated I have been unable to satisfac-

torily explain its advent from a pre-existing bacillus or to discover the link between it and a previous case of scarlatina. I have noted that it did not seem so highly infectious as are ordinary cases of scarlatina, but this has probably been an accidental circumstance, as we do occasionally meet with a case of scarlatina, where no special precautions have been taken to prevent its spread, singling out one of a family and allowing the others to escape; but on the other hand, an immunity from a further attack of scarlatina seems to be obtained, for I have had cases removed into a Scarlatinal Ward where children after operation had presented the usual objective symptoms of scarlatina, and as far as I could judge their cases have usually run a very ordinary course, and as long as they have been under my observation have not developed any further specific scarlatinal symptoms. In the wounds, where primary union has taken place, I have not discovered anything abnormal about the cicatrix, nor have I known one break down. In some cases where granulation was taking place (but this was not a constant occurrence) the discharges have been very scanty during the rash, and the wound has assumed a glazed appearance, the healing process having, seemingly, been held in abeyance for the time, but after about a week the normal healing process has continued unchanged as far as could be judged by naked eye appearances.

Through the courtesy of my colleague, Mr. Messiter, under whose care the case was primarily placed, I am enabled to record an example of typical scarlatina following an operation.

On Sep. 3rd a male child æt. 11 years was admitted into one of the female wards of the Guest Hospital suffering from a recent gunshot wound of his shoulder. Temp. on admission 99.2°F .

On Sep. 18th Mr. Messiter excised the left hip joint from a child æt. 4 years who was suffering from morbus coxæ.

Sep. 21st., afternoon. As the child was restless and cross case No. 1 was removed into the children's ward and placed in the next bed to the child who had been operated upon so as to help to keep him quiet.

Sep. 22nd. The hip-joint child was hot and feverish, Temp. E. 102° F., rising as the evening advanced to 104° F., and before nightfall he vomited.

Sep. 23rd. Temp. M. 100·8° F. Nurse when washing him noticed a red rash on his chest and arms. There was no angina but the rash was a typical scarlatinal rash. Sudamina were abundant on chest and abdomen. The disease ran a normal course; free desquamation came on early—on the eighth day—(probably increased by the sudaminal scales). The wound discharged freely after the rash disappeared. There were no complications.

On making a careful enquiry Mr. Strong, our House Surgeon, learnt from the mother of case No. 1 that for a week or ten days previous to his admission the child had had a sore throat, and that three other children in the same school that he attended were ill with scarlatina. Her child had not had, as far as she knew, any rash, and at the time of his accident he was playing about outside the house seemingly quite well.

The boy had a very dark skin, and although he had been stripped each day, and was constantly under the notice of the house surgeon and the nurses, there was nothing discovered on him to excite attention. After child No. 2 developed scarlatina a very minute examination was made of him, and the palms of each hand presented evidences of recent desquamation.

In this case the incubation must have been less than twenty-four hours, but this short incubation is not uncommon in scarlatina. The symptoms consequent on the operation so masked the onset of the specific symptoms as to make it very difficult to tell the precise incubation to two hours. Again, the progressive rise of temperature during the primary fever stage and the sudden drop when the rash appeared is an interesting but not uncommon occurrence in cases of zymotic disease. The further history of the child is very ordinary, but the case shews clearly how susceptible a child after operation is to the scarlatinal poison, although the wound may be—as was this one—dressed strictly antiseptically, and it furnishes an illustration of the possibility of

finding the missing link in most cases, remote as that may seem to be to the one under observation. It also accentuates the difficulty we often experience in deciding the question as to the length of time that should elapse before a child who has suffered from scarlatina be allowed to mix with other children. As a Medical Officer of Health I always give six weeks from the time of appearance of the rash, and not then unless every trace of desquamation has disappeared and the child is free from all discharges. Cases differ so much that it is impossible to lay down any definite rule as to time; but this is a minimum time, and I think should never be shortened even after the mildest attack. This boy was eighteen days in an ordinary female ward without children, had been bathed well, had had antiseptics used in abundance about his shoulder, but nevertheless he had sufficient of the poison about him to infect in a few hours a child whose wound had been as carefully dressed as his own.

As a practical outcome of the observations of Mr. W. H. Power and Dr. Klein (*Report of the Medical Officer of the Local Government Board. Milk Scarlatina. London, 1885*) which shewed a limitation of the disease to an area in which was supplied milk from a dairy the proprietor of which had used the milk given by a diseased cow, it would seem advisable after every operation, previous to and after labour, and *during the menstrual period*, to thoroughly boil the milk used, and so rid it of most micro-organisms. Extended observations since the report already referred to has been published have tended to strengthen the opinion therein contained, but we have at hand in *thoroughly* boiling a simple and efficient means of excluding from our milk diet micro-organisms of various kinds, or their products, which might find in our patients a suitable soil for reproduction, or of infecting, when from ignorance or culpable negligence such unwelcome guests may have tainted our milk supply.

REPORTS OF CASES.

CASES OF DIABETES MELLITUS, ILLUSTRATING VARIOUS PHASES OF ITS CLINICAL HISTORY.

BY ROBERT SAUNDBY, M.D. RD., F.R.C.P. LOND.
PHYSICIAN TO THE GENERAL HOSPITAL, BIRMINGHAM.

Case 13.—*Diabetes Mellitus—polyuria—thirst—wasting—intercurrent pyrexia resembling Typhoid.*

Agnes L., 8, school girl, was admitted into hospital on Feb. 7th, 1887, complaining of thirst, hunger, headache, and passing a large quantity of water.

History.—Her mother had noticed that these symptoms had been coming on for six months, as she was constantly drinking water and losing flesh. She had been previously pretty well, but never strong since she was four years old. Her sister was with her in the hospital with diabetes, and another child had died of the same disease at the age of 11. Six others and the father and mother were alive and well. Nothing was known of any other cases of diabetes in the family.

Condition on Admission.—She was a small, ill-nourished child, of strumous appearance. T. 98°, P. 96, R. 18. Her tongue was dry and clean; the only abnormal signs were deficient resonance and feeble breath sounds at the left apex. Urine 58 oz., sp. gr. 1013, acid, contained 3 per cent. of sugar, no albumen.

Progress of Case.—She was dieted and treated by alkalies and cod liver oil. On this treatment the urine increased in amount, but the sugar diminished and was often absent. She gained weight. But in the middle of March she complained of her throat being sore, and though there was nothing to be seen, her temperature for five days was 101°

each evening. During this time the urine fell from 80, 90, or even 130 oz. to 30, 40, or 50 oz. daily, sometimes only containing sugar.

The temperature was normal on the 18th and 19th; on the 20th it rose to 100°; was normal on the 21st; and then began, and for the next fifteen days described, a course very like that of a typhoid relapse. She complained of abdominal pain, her tongue was dry and coated, her face flushed, and the spleen was distinctly enlarged.

On the 28th, 29th, 30th, and 31st some very suspicious looking spots were seen on the abdomen, and the stool on one day was said to be quite a typical typhoid stool; but no other spots came out, and on the 5th the temperature was normal. During the period of fever the urine was never more than 44 oz. daily, and sometimes under 20 oz., while there was often no sugar present, and never more than 0.7 per cent.

After this she went on fairly well, but it was difficult to feed her. On her discharge she was improved in appearance and had gained 6 lbs. in weight.

Case 14.—*Diabetes Mellitus—thirst—polyuria—wasting—three members of family affected.*

Mary Ann L., aged 10, sister to Agnes L., was in the Hospital at the same time under my care. She had been ill four or five years. After admission she remained in the Hospital five months, gaining weight and improving somewhat on anti-diabetic diet, but she was difficult to feed. There were no incidents worthy of notice during her stay, nor any other points of interest in her case.

Case 15.—*Diabetes Mellitus—thirst—polyuria—wasting—sciatica.*

Josiah W., 56, came to the out-patient department on April 1st, 1886, complaining of pain and swelling in the right leg, which he had been told was sciatica. He also complained of violent pain in the abdomen, of great thirst, and of passing a large quantity of water, as much as three pints in the night alone.

History.—He had been under treatment for six weeks, but the pain began a month earlier. He had been losing weight. He had usually enjoyed good health, but eighteen years previously he had “rheumatics,” and was laid up five weeks, with pains which shifted about; his knees were swollen at the time. He had bronchitis twelve years ago; he had never had gout. Had a comfortable home; said he was temperate, but drank two or three pints of beer daily. He used lead in his work to hold the castings, but there was no lead dust. Father died, aged 63, of apoplexy. Mother died, aged 63, of dropsy. Of his thirteen brothers and sisters five were living in good health; the others died in infancy, except one sister who died in childbirth.

Condition on Admission.—He was a big, stout man, with a florid face; weighed 14 st. 3 lbs. No blue line on gums. Right leg pitted on pressure, but there was no obvious œdema, except some puffing over the instep. No œdema elsewhere. Pulse 88, resp. 18, temp. 98·8°. Physical signs normal. Breath foul; tongue red at edges; suffered from wind; bowels regular. Urine 76 oz., loaded with sugar, a cloud of albumen.

Progress of Case.—He was put on diabetic diet with an alkaline mixture, and the sugar at once disappeared. The pain rapidly improved. On being allowed ordinary diet the urine contained 2 per cent. of sugar, which disappeared again at once on the diabetic diet being resumed. The swelling and pain completely disappeared, and before he left he was allowed a little brown bread, without giving rise to any return of the glycosuria. He was discharged on May 5th and made an out-patient.

Case 16.—*Bilateral Sciatica—glycosuria—albuminuria—no polyuria or thirst.*

Ebenezer H., 65, came as an out-patient on May 14th, complaining of paroxysms of excruciating pain in the course of the sciatic nerves.

History.—He said the attacks lasted six to eight hours, and that they had come on about once in three months for the

last twenty years. For thirty years he had been subject to attacks of gout. He did not know of any case of diabetes in his family.

Condition on Admission.—He was a short, stout, florid man; he had lost most of his teeth; his bowels were confined. Physical signs normal. Urine, sp. gr. 1013, acid, a cloud of albumen; reduced Fehling moderately. He was dieted, and ordered to take the following:—

R. Sodii salicyl. gr. xv.

Inf. gent. ʒ i.

Ft. mist.

S.—To be taken thrice daily.

May 28th. The urine was free from sugar, and there had been no more paroxysmal pain.

Case 17.—*Diabetes Mellitus—glycosuria—polyuria—wasting—sudden onset at the menopause—cystic goitre.*

Elizabeth K., 50, attended as an out-patient on May 7th, 1889, complaining of thirst, hunger, and “the flesh all leaving her.” She had been ill a year and nine months. She had never had gout, rheumatism, or any serious illness or accident. She was married, and had had eight children. She knew of no member of her family who had suffered from diabetes or gout. Menstruation ceased quite suddenly at the time that these symptoms came on. Patient was a fairly developed woman, with a flushed face and dry skin; much emaciated, weighing only 7 st. She had no symptoms of dyspepsia; her bowels were regular. She had a large cystic goitre, which she had had since puberty. Her pulse was quick, 144; physical signs normal. Urine 1035, loaded with sugar. She had to rise three or four times each night to pass water.

Case 18.—*Diabetes Mellitus—thirst—polyuria—intermittent glycosuria—rheumatic pains—amblyopia.*

George B., aged 28, was first admitted on July 24th, 1886, complaining of lumbar pains, thirst, and polyuria.

History.—The last two symptoms had existed for three months, but the pain for only three weeks. At Christmas he

had *rheumatic* pains in his feet and knees, but was not confined to bed, and had never been well since. He could remember no other illness, or any injury. His family history was good, and he knew of no other case of diabetes among his relatives. He had been under treatment by Dr. Foxwell as an out-patient for three months before his admission. His urine averaged over 200 oz., sp. gr. 1040; urea 0.9 per cent.; sugar 8.0 per cent. He had lost 14 lbs. in weight. He was sent to the Suburban Hospital and afterwards re-admitted from there on Sep. 26th of the same year. He then complained chiefly of weakness.

Condition on Admission.—He was a fairly well-built and well-nourished man, with a pale and anxious face. He weighed 8 stone 9½ lbs. There was slight ptosis of the right eyelid which had always existed. His skin and joints were normal. Patellar reflexes present. Tongue clean. Bowels confined. No abnormal physical signs. Pulse 66, Temp. 98, Resp. 24. On ordinary diet he passed over 100 oz. of urine, but on being put on diabetic diet the quantity fell to 50 to 60 oz., while the sugar fell from 8 per cent. to 1.1 per cent. There was generally a faint haze of albumen present.

Progress of Case.—He was treated with Clemens's liquor, and under this treatment the urine kept low, the sugar was never more than 4 per cent., often much less, and he gained weight. On his discharge, Nov. 2nd, he weighed 8 st. 12¼ lbs. He was ordered to attend as an out-patient.

After leaving the Hospital he continued to attend as an out-patient, continuing his diet as well as he could, and going on with cod liver oil and iron in the shape of the sulphate in pills.

Nov. 23rd. Urine, sp. gr. 1026; no sugar.

Dec. 7th. Urine, sp. gr. 1017; no sugar. Is eating brown bread; ordered to eat potatoes in moderation.

Jan. 18th. Urine, sp. gr. 1020; no sugar.

Jan. 25th. Urine, sp. gr. 1016; no sugar.

Feb. 22nd. Urine, sp. gr. 1030; loaded with sugar.

March 22nd. Urine, sp. gr. 1025 ; a trace of sugar.

May 17th. Urine, sp. gr. 1026 ; no sugar. Is eating no potatoes, but brown bread.

May 24th. Urine, sp. gr. 1027 ; loaded with sugar.

June 9th. Urine, sp. gr. 1027 ; no sugar.

June 28th. Urine, sp. gr. 1028 ; no sugar.

July 26th. Urine, sp. gr. 1018 ; no sugar.

Aug. 23rd. Urine, sp. gr. 1032 ; a trace of sugar.

From this time he continued to have a trace of sugar in his urine up till Jan. 3rd, 1888, but it was only absent on that one occasion. He was seen about every fortnight during all this time. His general condition remained unsatisfactory. He had lost almost 5 lbs. in about eighteen months, and looked pale and worn. When examined in October his liver dulness was found to extend down to the level of the umbilicus.

The next occasion on which sugar was absent was in August, 1888. He had been drinking bitter beer for the last six months.

On Nov. 13th the urine had a specific gravity of 1035, but contained so little sugar that it was analysed, and 4·5 per cent. of urea was found to be present. He complained about this time of bleeding from the gums, which was stopped by a krameria mouth wash.

On Dec. 4th he had an eruption of lichen scrophulosorum on the chest, which was soon cured by ung. hydrarg. ammon.

Dec. 18th. Urine, sp. gr. 1020 ; no sugar.

Jan. 1st, 1889. His urine contained sugar, and continued to do so in varying amounts. In February he complained of a dry, brown scaly eruption on his scalp, which was greatly improved by washing with borax lotion. He began to complain of dimness of vision, and on May 28th he was sent to the Eye Hospital for a complete report upon his vision, which was as follows :—

V. in R. eye is $\frac{5}{80}$ when corrected for error of refraction ; V. in L. eye is $\frac{3}{80}$ badly. Both fundi are normal, and media clear. He smokes over 4 oz. of black twist tobacco a week, and has

central scotoma for red and green, the defect arising no doubt from toxic amblyopia. Sees better in twilight, etc.

Case 19.—*Diabetes—gangrene of both lower extremities—successful amputation of necrosed parts.*

Joseph F., 64, tailor, was admitted Feb. 20th, 1889, with gangrene of right foot.

History.—Father died at 86; cause not known. Mother was killed. Three brothers alive; one brother died young. No history of illnesses. About five years ago came under Mr. Chavasse with what he called “corns” on the second digit of each foot. That of the left foot got well, and the toe on the right foot was amputated. At that time he had no suspicion of any illness. He had not complained of thirst or of weakness; but on coming to the Hospital he was told he had diabetes. For some time he was only slightly troubled with sores on his toes, and about eighteen months ago he began to be thirsty. Twelve months ago last March all the toes on the left foot were taken off in the General Hospital, and he then went out to the Jaffray Hospital, leaving there in July. In January of this year the toes on the right foot began to be affected, and in February he came into the General Hospital again, and the third and fourth toes were amputated at different times. In April the ankle began to be bad, and on June 15th the leg was amputated. Latterly his health has not been so well. It is only in the last twelve months that he has noticed he has been passing a large amount of water. Has had no cough. No history of boils or other skin diseases.

Whilst the urine was measured from April 3rd to 21st he was passing from 66 oz. to 109 oz. in twenty-four hours, with an average of about 90 oz.

Urine Report:—

Feb. 25.	—	1036.	Ac.	Urea 1'4 p.c.	Sugar 8'3 p.c.	Acetone none.
Mar. 29.	—	1036.	“	“ 8 “	“ 5'5 “	“ present.
April 1.	70 oz.	1034.	“	“ 5 “	“ 5'2 “	“ “
“ 6.	88 oz.	1030.	“	“ — “	“ 5'5 “	“ “
“ 15.	80 oz.	1036.	“	“ — “	“ 5'0 “	“ —
June 17.	—	1033.	“	“ 1'0 “	“ 6'2 “	“ —

Case 20.—*Diabetes Mellitus—polyuria—sugar fluctuating greatly in amount—hard lump at root of penis—knee jerks present—disappearance of sugar on diet and opium—failure of jambul and antipyrin.*

James A., 61, medal maker, attended as an out-patient on Oct. 29th, 1889, complaining of passing nine or ten pints of water. He weighed 10 st. 9½ lbs. His knee jerks were present. On anti-diabetic diet and extract of opium (gr. i. three times a day), his urine diminished in quantity, but he lost weight, and by the following August weighed only 10 st. 1 lb., although the urine had come down to three pints, and was free from sugar. He began to eat whole-meal bread and other farinaceous food, and rapidly regained his weight, being 10 st. 11 lbs. on Sep. 27th, when he was passing a quart of water free from sugar. After this he continued to gain weight, but the sugar returned.

On Feb. 21st, 1888, he complained of a painless, hard lump at the root of the penis.

In August, 1888, he had a little pain in the right side, and friction was heard. This passed off.

In March, 1889, he weighed 11 st. 4 lbs., was passing about a quart of water daily, sp. gr. 1028, containing a little sugar; the lump at the root of the penis had gone away. He was taking extract of opium (gr. i.) three times a day. He was ordered two of Christy's jambul perles three times a day, and in the course of the next three weeks these were increased gradually to four three times a day, with the result that the urine rose to three pints, and became loaded with sugar. He was then given antipyrin (gr. x.) three times a day with no better result.

Case 21.—*Diabetes Mellitus—cured by diet and opium.*

Henry H., aged 57, collier, attended as an out-patient on Jan 4th, 1887, complaining of thirst and of passing a large quantity of water, seven pints daily. He was put on extract of opium (gr. i.) three times a day, and anti-diabetic diet. By March 22nd the quantity of urine had fallen to two and a half

pints, sp. gr. 1015, and the sugar had disappeared. He was allowed to take modified diet, viz., bread and potatoes, and on April 19th the absence of sugar was confirmed.

Case 22.—*Diabetes Mellitus—polyuria—thirst—albuminuria—pruritus ani—lichen on chest and back—disappearance of sugar.*

Mr. Frederick W. W., aged 56, consulted me first on March 31st, 1883, being sent to me by my friend Mr. Eales, who had discovered sugar in his urine. He had been passing too much water for five months, and suffering from thirst. He had had gout several times. Weighed 13 st. 2 lbs.; had not lost flesh. Tongue clean; appetite good; bowels regular. Fundus of eyes normal. Urine, 1028, contained sugar and a trace of albumen. On anti-diabetic diet, using toast moderately, and extract of opium (gr. i.) three times a day, his urine was diminished by two-thirds, its specific gravity came down to 1020, but there was some loss of flesh—by May 5th he had lost 5 lbs. By June 16th the sugar had disappeared, and did not return at all after June 30th. When last seen, Aug. 18th, 1884, he weighed 13 st. 3 lbs., his urine amounted to two quarts daily; it was free from sugar, and he felt very well.

Case 23.—*Diabetes Mellitus—thirst—polyuria—no gout—disappearance of sugar with diet and opium.*

Mr. William L., aged 60, consulted me on August 31st, 1886, complaining of *frequent and scanty* micturition. This had been worse for two or three months, but had occurred at intervals for the last two or three years. He had never had gout, nor was there any gout in his family. He weighed 14 st. 5 lbs., and had not lost weight within the year. He was obliged to get up very often at night to make water; his total urine was about three quarts in twenty-four hours, amber, faintly acid, 1029, loaded with phosphates and sugar. He was very thirsty, and drank claret and claret and water latterly. Formerly he had been in the habit of drinking beer. Tongue deep red, rather furred. Had formerly suffered from indigestion. On anti-diabetic diet, with Vichy water (half-pint) twice daily with lemon juice, the quantity of his water diminished, his thirst was

allayed, and he rested better at night, while during the day he made water less frequently. The urine was however still loaded with sugar. He had been getting gluten bread. He was ordered extract of opium (gr. i.) every night at bedtime. A fortnight later he had lost three pounds in weight since his first visit, but on the other hand his urine was 1015, free from sugar, and he could lie in bed all night without being disturbed. He was complaining of costiveness and drowsiness, so the opium was stopped and a euonymin and aloes pill substituted. This gentleman is still alive and fairly well, but has not consulted me since.

Case 24.—*Diabetes Mellitus—rheumatic pains—polyuria—thirst—emaciation—improvement on diet and opium—diarrhœa—failure of jambul.*

Mary P., aged 53, attended as an out-patient on May 4th, 1886, complaining of pains in the back and legs, thirst, loss of flesh, and of passing a great quantity of water. She had been ill four years. The quantity of water in twenty-four hours was about nine pints, sp. gr. 1030, loaded with sugar. She was treated by anti-diabetic diet, extract of opium (gr. i.) three times daily, and allowed saccharin as a sweetening agent. On this treatment the quantity of urine fell rapidly to four pints in twenty-four hours, and thirst was lessened. The following year she began to suffer from repeated diarrhœa. Jambul was tried as a substitute for opium with some temporary rise in the quantity of water. The diarrhœa had to be kept in check by the use of chalk and opium; the urine remained about the same, four pints, sp. gr. 1039, when last seen in September, 1887.

Case 25.—*Diabetes Mellitus—polyuria—thirst—albuminuria—gangrene of toes—knee jerks diminished—improvement on diet and opium.*

William F., aged 57, attended as an out-patient on Oct. 26th, 1886, complaining of passing three to four quarts of water and of getting up very frequently at night for this purpose. He had been ill three years, when he got gangrene of three toes on the right foot, and his urine was found to contain sugar. He

suffered from thirst; his urine was pale, clear, 1022, and contained a cloud of albumen and a large quantity of sugar. The knee jerks in both legs were almost absent. On anti-diabetic diet and opium he lost his thirst, he was not disturbed at night to make water, and the quantity of this secretion fell to 90 oz. daily, or little more than two quarts, of sp. gr. 1020. He was not seen after Jan. 18th, 1887.

Case 26. — *Diabetes Mellitus—polyuria—thirst—wasting—duration three weeks—improvement on diet and opium.*

Emily W., aged 23, married, attended as an out-patient on Dec. 14th, 1886, complaining of great thirst for the past three weeks, of passing a large quantity of water for a month or more, and of wasting. She had been married thirteen months, and six months previously was confined, the baby living only a month. She had become regular again. Her father was dead; he drank too much, and died of liver disease. Her mother died in child-birth. She had only one brother, who was alive and well. Her urine was pale, slightly turbid, acid, 1032, loaded with sugar, and slightly phosphatic. She weighed 7 st. 1 lb. Under treatment by anti-diabetic diet, and extract of opium (gr. i.) three times a day, the quantity of urine diminished, thirst improved, but the sugar remained abundant. On Feb. 1st, 1887, she ceased to attend.

Case 27. — *Diabetes Mellitus—temporary disappearance of sugar under dietetic restrictions and opium.*

George E., aged 61, attended as an out-patient on Dec. 6th, 1887, complaining of thirst and of getting up a dozen times at night to make water. Quantity of urine five pints, pale, clear, 1027, contains a moderate quantity of sugar. Weight of patient 218 lbs. He had been ill two years. On anti-diabetic diet and extract of opium (gr. i.) three times a day, by May 8th the quantity of water had fallen to three pints, of sp. gr. 1018, free from sugar. He then began to eat bread freely, and the sugar returned, though the quantity of urine remained low. Jambul and antipyrin were tried without effect on the sugar.

Case 28. — *Diabetes Mellitus—wasting—polyuria—thirst—improvement on diet and opium.*

Benjamin W., aged 53, was admitted as an out-patient on Dec. 13th, 1887, complaining of loss of weight, thirst, and of passing a large quantity of water. He used to weigh 12 st., and then weighed only 9 st. 10 lbs. He passed nine and a half pints of water, sp. gr. 1038, loaded with sugar. On opium and modified diet—for he was not very strict, and would drink a little beer and eat a good deal of brown bread—his urine diminished, and on the last occasion he was seen (Nov. 1888) he weighed 9 st. 13 lbs., and was passing only two quarts of water, of sp. gr. 1034, though it was still loaded with sugar.

Case 29.—*Glycosuria—no polyuria—no thirst—no loss of weight.*

Arthur M., 32, metal roller, came to me in July, 1887, to be examined for life insurance. He was a very powerfully built man, 5 ft. 6 in. in height, and weighing 12 stone. There was no history of injury or syphilis or any family history of diabetes. His knee jerks were present. There was no other evidence of disease but his urine, which was of sp. gr. 1029 and was loaded with sugar. The quantity was not increased. A second sample, examined a fortnight later, was just the same. He was sent again to me in May, 1888, when I found no loss of weight had taken place, and no thirst or polyuria had come on, but the urine was still loaded with sugar, sp. gr. 1023.

PERISCOPE.

THERAPEUTICS.

BY ROBERT SAUNDBY, M.D. EDIN., F.R.C.P. LOND.

Hydroxylamine in Skin Disease.—Fabry (*Therapeutic Gazette*, Sept. 16, 1889) recommends the use of hydroxylamine in chronic psoriasis, in the following formulæ :—

Hydroxylamine muriate, 2 to 5 parts
Alcohol, 100 parts
Chalk, sufficient to neutralise.
Mix and filter.

Hydroxylamine muriate, 1 part
Water. 1.000 parts
Chalk, sufficient to neutralise.
Mix and filter.

Its advantage over chrysarobin and pyrogallie acid is that it is colourless

Hydroxylamine was discovered by Lossen in 1865. Its formula is $2H_2O + NH_4OH$, and in physiological action it is closely allied to pyrogallie acid, chrysarobin, and allied substances.

Relief of Strangury.—Dr. Luton, of Rheims, having highly recommended tincture of ergot internally for the immediate relief of strangury, we were recently induced to try a hypodermic injection of ergotin for the same purpose, inserting it in the fossa just behind the great trochanter. The results were all that could be desired. The patient had had a hypodermic injection of morphine about an hour previously, and was considerably under its influence when we were applied to for relief.—*National Druggist*, August 15th, 1889.

Coronilla in Heart Disease.—*Coronilla scorpioides*, Nat. ord. Papilionaceæ, is widely distributed in the southern parts of

France. In 1886 Dr. Cardot announced that this drug arrests the heart in systole, and recently this statement has been confirmed by Schlagdenhauffen, Gley, and Spillman. A glucoside named coronillin has been isolated, of which the toxic dose is said by Schlagdenhauffen to be three-quarters of a grain for a man weighing 120 lbs.; nevertheless it is stated by Spillman that from two to three grains must be administered to produce any therapeutic effect. This divergence as to dose must cause some delay in the introduction of the drug into practice.—*Therapeutic Gazette*, Sept. 16th, 1889.

Senna Pods as a Laxative.—D. Macfarlane (*Lancet*, July 27th, 1889) recommends the use of an infusion of senna pods, from three to twelve in a wineglassful of cold water, as a trustworthy and tasteless aperient. He has prepared a fluid extract, of which the dose is from half a drachm to a drachm in a wineglassful of cold water at bedtime.

Cocaine in Diabetes. Thomas Oliver. (*The Lancet*, 1889, Vol. II., p. 735.)—After reference to the disappearance of glycosuria in diabetes during the presence of pyrexia and to the apparent cure of a diabetic gentleman by an attack of pneumonia, the use of cocaine as a pyrogenic remedy was suggested. The illustrative case was a cabinet-maker, aged 43, who was insane, ataxic and diabetic. Under cocaine his bowels acted better, his nocturnal delusions disappeared, and he gained weight, while the urine had fallen from 12 or 13 pints to 4 or 5. On omitting the cocaine (gr. $\frac{1}{4}$ three times a day) the urine rose at once, but at this stage he unfortunately caught cold, got worse and died.

Exalgine in Neuralgia. Dr. Frederick Peterson. (*New York Medical Record*, Sep. 14th, 1889.)—This remedy originally prepared by Brignonet, is a derivation of benzine, and its proper chemical name is orthomethylacetanilide. It has been recommended by Dujardin-Beaumetz for neuralgia, diabetes, &c. Peterson gives eight cases of neuralgia in which it was very successful in doses of two grains every four or six hours. It was given in pill or cordial.

Treatment of Pityriasis Versicolor by Brushing.—Dr. Joseph Drzewiecki (the *Satellite*, September, 1889).—The stubbornness of this affection and the annoyance occasioned by its treatment with ointments are well known. Having been accustomed for some years to advise my patients suffering from any chronic pulmonary disorder to rub the chest night and morning with a common cloth-brush, I noticed that, when pityriasis versicolor was present, this affection disappeared after ten days or two weeks. This occurred even in persons in whom the skin was dry, in which case it became smooth, shining, and elastic.

Beta-Naphthol.—John V. Shoemaker (*Therapeutic Gazette*, Oct. 15th, 1889).—This drug is a powerful antiseptic. It is used internally in gastric and intestinal disorders in doses of from $\frac{1}{2}$ to 5 grains; in constipation, intestinal catarrh, pharyngitis, bronchitis, diphtheria, erysipelas; malarial, scarlet, and enteric fevers; in the diarrhoea of infants, combined with bismuth. It is administered in tabloids, or in milk, glycerine, and mucilage; it is only slightly soluble in water. Externally it is used in skin diseases, but is irritating; a five per cent. soap is useful in some chronic cases; and the drug is useful in scabies, phthiriasis, chronic eczema, psoriasis, acne, etc. It may be dusted on syphilitic sores, cancer, and lupus, or applied in purulent ophthalmia in conjunction with cauterisation by nitrate of silver. Injections of it may be employed in gonorrhoea, vaginitis. One part of naphthol combines with two of camphor to form a syrupy liquid which possesses a stimulating and sedative local action. Ointments composed of this substance (5–20 grains to the ounce) are valuable in many skin diseases. The substance itself may be applied to the throat in diphtheria, to wounds, excoriations, boils, etc.

Rhus Toxicodendron.—John Aulde (*Therapeutic Gazette*, Oct. 15th, 1889).—*Rhus toxicodendron*, poison ivy, is a plant indigenous to North America, where it is a popular remedy for rheumatism. It is used in the form of tincture, the dose being 1 to 5 minims or more. The tincture, according to Aulde, is prepared with 50 parts of the fresh leaves to 100 parts of

alcohol, one part of this tincture being further diluted with nine parts of dilute alcohol. He thinks the fluid extracts in the market are very uncertain in their action, and he fears that the virtue of the leaves may be lost in the process of drying. He recommends the drug in chronic rheumatism, neuralgia, sciatica, chronic cystitis, and hæmorrhoids.

Bromide of Rubidium and Ammonium.—Laufenauer (*Wiener Med. Wochenschr.*, July 13th, 1889).—This drug is suggested as a remedy for epilepsy. It appears to possess some of the power of the other bromide salts; but there is no evidence that it is better or even as good, while it is very expensive.

Chloralamide.—Hagemann and Strauss (*Berliner Klin. Wochenschr.*, No. 33, 1889).—Chloralamide is a substitute for chloral, having the advantage that it does not depress the circulation. The dose should not exceed 45 grains. It is most useful in cases of simple insomnia.

MEDICINE AND GENERAL PATHOLOGY.

BY ROBERT SAUNDEY, M.D., F.R.C.P.

An Anomalous Cardiac Murmur.—W. T. Gairdner (*Amer. Jour. of the Med. Sciences*, July, 1889, *Med. Chronicle*, October, 1889).—The late Dr. Austin Flint recognised the occasional occurrence of a short presystolic murmur in certain cases of free aortic regurgitation without mitral disease. ("Principles and Practice of Medicine," 3rd edition, p. 325.) A paper on this murmur, by Dr. Bramwell, was contributed to the March number of the *Amer. Jour. of the Med. Sciences*, which elicited from Dr. Gairdner the notes of a similar case in which he admits the auriculo-systolic character of the rhythm of the murmur. Dr. Graham Steell, in noticing these papers in the *Medical Chronicle*, admits the occurrence, and claims to have referred to it in a clinical lecture in 1883. It closely resembles

a badly developed presystolic murmur, and is accompanied by a slight short thrill.

The Pasteur Method.—The *Journal de Médecine de Paris* for 6th Sept., 1889, contains details of three cases of death from rabies following the treatment of M. Pasteur. Two of these cases had been treated in Paris, the other in Russia. The last case is especially notable, as out of many children bitten by the same dog this was the only one treated by the Pasteur method and the only one which has shewn any sign of rabies, while the bite was in this case through clothing, another child having been bitten in the bare arm, who, like all the others who were not inoculated, remains quite well.

Slow Pulse.—D. W. Prentiss, M.D. (*Boston Med. and Surg. Journal*, vol. cxxi., p. 303.)—Patient was a white male, aged 54, a carpenter by trade, of temperate habits, but an habitual smoker of tobacco. He had been building a house in a malarial locality when he began to have "weak spells," in which the only objective sign was slow pulse. He fainted on several occasions. Between December 13th, 1887, and January 20th, 1888, his pulse ranged from 22 to 76 per minute. He then got better and resumed work, being advised to give up tobacco. But he relapsed, and was bad from October, 1888, to April, 1889, when he improved, to relapse again in August. His pulse was in these attacks as low as 12 and 15; his temperature was subnormal— 94.5° to 97° . He again improved, and was well enough to be shewn at the meeting of the Association of American Physicians. He got most benefit from bromide of ammonium in fifteen-grain doses three times a day, and extra doses when threatened with a paroxysm. Digitalis, convallaria, and strophanthus made him worse. Nitroglycerine at first made him better, then worse. Faradism—one electrode over the heart and the other at the back of the neck—seemed to be of decided benefit.

In explanation of this case the author is inclined to the view that it was the effect of tobacco poisoning; but he omits to say to what extent the advice given to abstain from tobacco was

followed, and whether the relapses were in any way connected with a renewal of the habit.

Chronic Oxalic Acid Poisoning.—J. Barker Smith (*Lancet*, September 21, 1889, p. 584).—An interesting case which has lately come under my care has increased my interest in oxalates, and made me consider another mode of their origin in the body in addition to idiopathic formation and ingress by the alimentary canal—viz., by the lungs,—and this, perhaps, not always wholly immediately, but indirectly through the agency of micrococcous forms. Such an experience is probably unrecorded, as the process known as the platinum process has only lately been in use, and my patient was engaged in working the process as an elegant addition to photographic art. He complained of a cough which he had had for six months, and spat blood for about two months before. He was anæmic, and complained of *general weakness, pain in the back*, and over the region of the heart. His temper was irritable. Sometimes he was absent in mind or self-conscious. He had sensations of heat in his head, slight giddiness, and flushing of cheeks frequently. There was no sweating at night or loss of flesh. Physical examination revealed no signs of phthisis; his heart beat irregularly and feebly, and there was a hæmic murmur. The sputa were loaded with small fungus cells, but contained no bacilli. The urine contained abundant minute crystals of calcic oxalate. He had conjunctivitis, which he had also noticed in his fellow-workers. On visiting his dark chamber, brilliant crystals of potassic oxalate glittered like small diamonds everywhere—on the floor, shelf, and bottles. The potassic oxalate is used in the process in hot saturated solution. It may be mentioned that Nägeli found that no fungus grew in oxalate of ammonia and oxalic acid except on the addition of sugar.

Post-Mortem Sweating.—By John A. Cones, M.R.C.S., L.R.C.P., &c., (*The Lancet*, 1889, vol. i., p. 1027).—The patient, a male aged forty-two, had been suffering from albuminuria. The albumen never exceeded one-fourth. The

urine showed no casts, but abundant urates; there was no dropsy or ascites. Ten days before death he was seized with uræmic coma and left hemiplegia, which last persisted to the end. The temperature was normal until the last few days, when it was considerably higher, ranging from 102° to 104° , and so persisting to within six hours of death, when it steadily sank. All treatment to produce diaphoresis gave very slight and unsatisfactory results; and the skin, though not absolutely dry, was destitute of sweat to any extent during the earlier days of his fatal attack. Hypodermic injections of pilocarpine were given on four occasions, the dose being gradually increased; the last injection (one-third of a grain) was given three days before death; this produced a fair amount of sweating for about twenty minutes, but was not repeated on account of the excessive bronchial secretion it on this occasion gave rise to. Forty-eight hours, however, before death the patient began to perspire profusely, and this continued without any interruption to the very end, even when the surface temperature was decidedly subnormal. The body, as usual, was washed and laid out on the bed, and four hours afterwards was removed thence to a bier, nothing unusual being noticed at the time of removal or before. When, however, the body was seen next morning—sixteen hours after death—it was at once noticed that the sheets and pillows on which it lay were absolutely saturated with sweat, and the skin felt moist and clammy; this continued for at least eight hours, but thirty hours afterwards it had apparently ceased and the sheets &c. were then drying. It was also noticed that post-mortem discolouration was well marked even when the body was first seen.

The explanation which suggests itself to my mind, says Mr. Cones, and which I venture to give here, is this. The patient was sweating freely up to the time of his death, and we may therefore suppose that the glands and lymph spaces surrounding them were fully charged with fluid at the time. If so, then, when the rigor mortis began, the contents of these glands and lymph spaces may have been mechanically pressed and filtered

out. For Dr. Brunton, in a valuable paper on the Pathology of Dropsy, tells us that the beautiful experiments of Claude Bernard on the influence of irritation of the chorda tympani on the secretion of the submaxillary gland shew that the secreting cells do not derive the materials for their secretion directly from the blood, but indirectly through the lymph spaces which surround the alveoli. These spaces form, as it were, reservoirs—so much so, indeed, that if care be taken to fill them during the experiments, the gland will continue to secrete even after the head is removed from the body.

On Ehrlich's Diagnostic Sign of Enteric Fever.—By Howard Taylor, M.D. Lond., F.R.C.S.—In 1882 Ehrlich announced that the urines of enteric patients gave a characteristic reaction.

His test solutions are as follow:—*A*, a saturated solution of sulphanilic acid in dilute (1 in 20) hydrochloric acid; *B*, a '5 per cent. solution of sodic nitrite in distilled water. (Both of these solutions must be fresh, especially the latter, which cannot be depended on for more than a week at the longest. When they are mixed, of course, a solution of sulphanilic acid containing free nitrous acid is produced, which is the actual test solution; but on account of the extreme instability of the latter, the two solutions must be mixed fresh at each testing.) In using the test, about 25 parts of *A* are added to 1 of *B*. Mix with this an equal bulk of the urine to be examined, and render alkaline with strong ammonia.

With normal urine the only change which ordinarily occurs is a mere deepening of its colour to a sherry or vinegar brown. In conditions of pyrexia other than typhoid fever the colour also deepens, but still remains merely brown, although usually it becomes of a darker tint than the average colour given by normal urines. But when the test is applied to the urine of a patient with enteric fever the colour rapidly turns red, the exact tint it acquires varying from the yellowish red of bichromate of potassium solution, though ruby red, to a rich port wine colour. On shaking the test tube a froth is produced, which has usually a delicate pink colour that is very characteristic. It is not

always given until the latter part of the first week, and after the morning temperature has once reached normal it may cease. Still the reaction is present during the greater part of the febrile period in every case. Unfortunately it is met with in other diseases; a slight reaction is seen in some healthy urines, and it was observed commonly in Bright's disease and with other albuminous urines, in valvular disease of the heart, in chorea, in measles, in advanced phthisis, and in acute rheumatism. It was absent in acute tuberculosis, pneumonia, diphtheria, etc.; but, in these last two, other observers have met with it.—*The Lancet*, May 4th, 1889.

Œdema as a Diagnostic Sign in Carcinoma of the Stomach.—

M. C. Baert, of Brussels, writing in *La Clinique* on cancer of the stomach, calls attention to the frequency with which œdema of the ankles is met with in this affection after it has lasted a few months—a diagnostic aid which is by no means new, but is, he thinks, in danger of being too much overlooked at the present day. He gives a number of cases recently occurring in the various hospitals in Brussels in which œdema was present. In one of these cases the œdema came on as early as three months after the first symptoms of the affection made their appearance; in two other cases it was noticed after four months; but in most of the other instances it was delayed till the lapse of from six months to a year after the onset. In one case, where there was no evident cause to which to attribute the loss of appetite and the wasting complained of by the patient, Prof. Carpentier, noticing some œdema of the ankle, diagnosed carcinoma of the stomach, and found his diagnosis confirmed by the appearance a month afterwards of all the usual signs of the affection. Several of the cases presented a marked increase in the nitrogen excreted in the urine. With regard to the deficiency or absence of hydrochloric acid in the stomach in cancer of that organ, M. Baert admits that it is usual, but agrees with Wolff and Ewald in saying that this sign is by no means peculiar to cancer, as it is found in other gastric affections.—*The Lancet*, April 13th, 1889.

Arterial Changes in Phthisis.—The morbid changes in the arterial coats have recently been studied in sixteen cases of phthisis by Dr. N. Sh. Ippa of St. Petersburg. In all the cases some at least of the arteries were affected, the coronaries of the heart invariably so. The coats which were found to have undergone morbid change were the intima and the middle coat. Connective tissue was found in the intima of arteries where it does not in the normal condition exist at all—as for example in the brachial, femoral, and coronary arteries. This is due to an inflammation of the coat, which has been described by Dr. R. Thoma as “diffused and nodose chronic fibrous endarteritis.” In arteries where there is connective tissue in the intima, its amount was found to be very materially increased. The middle coat was affected in a somewhat similar manner, the muscular elements being atrophied and connective tissue being formed. The vessels presenting the most extensive morbid changes were the coronaries, and those least affected were the brachial, femoral, and more particularly the pulmonary arteries.—*The Lancet*, April 13, 1889.

Addison's Disease.—At a recent meeting of the Montpellier Academy of Science (*Gaz. Hebd. des Sci. Méd.*, No. 11) M. Baumel related two cases of Addison's disease. The first, observed in 1880, was that of a man 36 years of age who had spinal curvature, and in whom the bronzing consisted in an increase of the normal cutaneous pigmentation. The second, observed in 1888, was that of a woman 65 years old, who exhibited marked bronzing all over the trunk, but the face, hands, and feet were exempt. In the first case there was considerable enlargement of the suprarenal capsules and numerous foci of calcation. In the second, the capsules were atrophied and in a state of fatty degeneration, which occurred in other of the abdominal viscera. The change in the capsules was especially marked in one of the two zones of pigmented cells separating the medullary from the cortical substance, and a cavity formed here by the degeneration was the seat of a hæmorrhagic effusion. M. Baumel expressed his belief in a

chromatic nervous apparatus, and in the function of the adrenals being to supply the material for pigment, in the form of the chemical body discovered by Vulpian. This substance, which reddens in contact with air and blackens with the persalts of iron, would, after contributing perhaps to the formation of hæmoglobin, go to form a pigment in the cellular elements. In connection with this subject it may be added that at the meeting of the Paris Academy of Medicine on the 26th ult. M. Cornil read the report of a committee, consisting of MM. Jaccoud, Constantin Paul, and himself, on a case of Addison's disease with lesions of the posterior spinal nerve roots, communicated to the Academy by MM. Kalindero and Babes. These observers found in this case a chronic sclerosis of the cord mainly confined to the vicinity of these nerve roots, with a neuritis extending specially along the latter, the lesions being most marked in the lower dorsal region. The committee reported that no general conclusion could be drawn from a single fact, but considered this observation to meet the desideratum expressed by M. Jaccoud in his Dictionary—viz., that hitherto no anatomical lesion characteristic of Addison's disease had been found.—*The Lancet*, April 13th, 1889.

NERVOUS DISEASES.

BY C. W. SUCKLING, M.D. LOND., M.R.C.P.

The Pathology of the Central Nervous System in Exophthalmic Goitre. By W. Hale White, M.D., *British Medical Journal*, March 30, 1889.—Dr. Hale White records a very interesting and instructive case of Exophthalmic Goitre, in which the autopsy disclosed distinct changes in the central nervous system. The superior cervical ganglia and the cervical sympathetic cords were healthy, as was also the spinal cord. Sections of the medulla oblongata disclosed numerous hæmorrhages immediately under its posterior surface, extending from the middle line as far out as the restiform bodies. The

hæmorrhages were almost entirely limited to the posterior superficial part of the reticular formation, and they existed in all sections up to the lower part of the aqueduct of Sylvius. The hæmorrhages were not old, but probably did not take place immediately before death. Dr. White believes this to be the first recorded case in which changes in the central nervous system in association with exophthalmic goitre have been found, and which could also in any way account for the disorder. The old and favourite theory that the disease is due to lesion of the cervical sympathetic must be discarded, for this portion of the nervous system is often found to be quite healthy, or if changes are found to be present, they are such as are often present in other maladies also. The association of exophthalmic goitre with other nervous diseases, *e.g.*, epilepsy, neuralgia, migraine, ophthalmoplegia, mania, general paralysis, melancholia, etc., and the fact that in this disease there is a liability to sudden death, support the theory that the disease is due to alterations in the central nervous system. Minute hæmorrhages in the floor of the fourth ventricle will cause sudden death, and Dr. White considers that all the symptoms of exophthalmic goitre might be produced by such a lesion.

Gerlier's Disease, or Paralyzing Vertigo.—(*Le Progrès Médical.*)—Dr. Eperon reports two cases presenting the usual disorder of vision, ptosis, diplopia, temporary amblyopia, and ophthalmoscopic lesions. The general symptoms comprised slight headache and evidence of paresis in the muscles of the forearm. The ptosis and diplopia were both intermittent. Dr. Eperon considers that the lesion is a meningeal hyperæmia especially localised in the occipital region, where the known cortical centres of vision and of the movements of the eyelids are situated. This hyperæmia is mostly temporary and intermittent, but it may often become permanent enough to react on the circulation of the optic nerves.

Charcot on Suspension in Locomotor Ataxia.—(*Medical Press*, April 1889.)—Dr. Prendergast, writing from Paris, corrects a statement to the effect that cases of locomotor ataxia had been

completely cured by suspension carried out at the Salpêtrière. He states that Professor Charcot does not consider any of the patients he has treated by suspension cured, and that the Professor has little hope that any such method will ever procure the cure of locomotor ataxia. At the same time, suspension does produce amelioration in the following symptoms:—In co-ordination, the sign of Romberg, the sexual impotency, the lightning pains, the vesical troubles, etc., and hence the treatment is very valuable and should be tried for such symptoms; but the word "cure" should be studiously avoided.

Erotic Feelings Preceding and Following Epilepsy.—Dr. Routh, at the British Gynæcological Society, recently read notes of a case in which erotic symptoms preceded epilepsy. The patient was married and had had three children; she had suffered from epileptic attacks for some years. The catamenia lately had been unusually copious, then irregular, and finally ceased. The uterus was very large, and the passage of a sound into it was painful and brought on a fit. He decided to try the effects of the negative electric current to reinduce a menstrual flow; but on the occasion on which he did this she developed strong erotic symptoms and had an epileptic attack, after which she again became aggressively amorous to a lady to whose care she was for two hours consigned. The author pointed out that these were precisely the circumstances under which charges were made against medical men, and that such a situation was full of danger.—*Provincial Medical Journal.*

The Dangers of the Suspension Treatment of Locomotor Ataxia.—Two cases have recently been reported where death was the result of suspension for locomotor ataxia. In both cases the patients had suspended themselves. Suspension should not be employed if there is any heart disease. In no case should suspension be carried out except in the presence of a medical man. The treatment should be practised at intervals of several days, the progress being carefully watched.

Fronto-Facial Asymmetry in Epileptics.—MM. Bourneville and P. Sollier (*Le Progrès Médical*, Sept., 1889) direct attention

to the frequency with which a certain degree of want of symmetry in the face and forehead is met with among epileptics. Casts were taken of all epileptics dying at La Salpêtrière and Bicêtre. In only one out of thirty cases was there no real asymmetry. The authors incline to the belief that the cranial deformity is directly associated with cerebral deficiency, so that in their view the asymmetry characteristic of the epileptic is practically the index of the lack of cerebral development and not the cause of the latter. Facial asymmetry to a certain slight degree is probably the rule. The observation that the majority of cases of idiopathic epilepsy present "fronto-facial asymmetry" is of considerable interest.—*Lancet*, Sep. 22, 1889.

Brain, Parts xlv. and xlvi., July, 1889.—This volume of *Brain* contains nearly 300 pages of printed matter, comprising many valuable papers. An article by Dr. Gaskell on the Origin of the Central Nervous System of Vertebrates occupies the first twenty pages. Dr. Nothnagel (Vienna) writes a paper "On the Diagnosis of Diseases of the Corpora Quadrigemina." He concludes that ataxia is a constant symptom in lesions of these bodies, and that this symptom depends upon the affection of the corpora themselves, not upon other parts of the brain being implicated. The second circumstance which enables lesion of these bodies to be diagnosed is the appearance of paralysis in the territory of the ocular nerves, especially of the motor oculi. In a given case then in which the signs point to the existence of a cerebral tumour, there are grounds for localising it in the corpora quadrigemina if the following symptoms be present—(a) an unsteady reeling gait, especially if this appear as the first symptom; (b) associated with this gait, ophthalmoplegia in both eyes, but not quite symmetrically nor implicating all the muscles in equal degree.

Dr. Ferrier contributes a highly instructive paper on "Cerebral Localisation in its practical relations." In mentioning Jacksonian epilepsy he states that a mere irritative lesion does not necessarily imply demonstrable organic disease, and the starting point of the irritation may be elsewhere than in the part discharged. But

if following limited spasm paralysis of motion occurs, *i. e.*, if the monospasm give place to a monoplegia, then we may with certainty diagnose organic disease of the Rolandic zone of the opposite cerebral hemisphere. The paralysis is temporary or permanent according to the extent of the destructive lesion.

Dr. Ferrier concludes that the sensory and motor centres do not coincide, and that the anæsthesia sometimes observed in connection with lesions implicating also the motor zone is in reality due to direct or indirect implication of sensory tracts or centres. A hemiplegia associated with hemianæsthesia is a sign of lesion of the internal capsule, or if (as judged by other indications) invading the cortical motor zone, a sign of implication also of the gyrus fornicatus or its connections with the internal capsule. Subcortical lesions of the motor zone produce symptoms not readily, if at all, distinguishable from lesions of the cortex itself. Theoretically on experimental grounds irritative lesions of the subcortical fibres should produce only tonic and not clonic or epileptiform spasms, but practically this is not a reliable test, as these lesions generally cause also cortical irritation and clonic convulsions of the usual type. More frequently however in subcortical than in cortical disease there is an absence of that tenderness on percussion or deep pressure which is so characteristic of lesions of the cortex, though no pain may be spontaneously complained of by the patient.

Lesions of the prefrontal region cannot with certainty be diagnosed from the symptoms of the lesion as such. The irritable dementia not unfrequently observed in connection with such lesions cannot with certainty be distinguished from the general effects of other cerebral diseases, such as tumour, abscess, and the like.

With reference to the success of operative treatment for focal epilepsy, it is not safe to count on a cessation of the fits until at least a whole year has elapsed since the date of the operation without any recurrence. In traumatic epilepsy, unless, besides the mere history of a blow on the head, there is clear evidence of local injury in the shape of a distinct cicatrix or depression

and in addition some signs of localised irritation of the cortex at or near the site of injury, trephining is not indicated, and even then the result is doubtful. The prospects of benefit are much greater when, in addition to trephining the skull, the whole of the cicatricial tissue and irritable portion of the brain cortex are completely excised. In all cases of operation for focal epilepsy there should be as complete excision as possible of the whole centre from which the discharge proceeds.

Dr. Marie contributes an article on Acromegaly; Dr. M. Allen Starr, of New York, an article on the pathology of Sensory Aphasia; Drs. Hughes Bennett and Savill an unique case of permanent conjugate deviation of the eyes and head, the result of a lesion limited to the sixth nucleus. Articles upon Chorea Insaniens (Dr. Gay), Peripheral Neuritis (Dr. Handford), Absence of Corpus Callosum, and Katatonia follow; the volume closing with a very exhaustive and instructive article on Cerebral Localisation in its practical relations, by Dr. Charles K. Mills, U.S.

PHYSIOLOGICAL AND PATHOLOGICAL CHEMISTRY.

BY C. A. MAC MUNN, M.A., M.D. DUB., F.C.S.

Poisonous Effect of Expired Air.—Brown-Séquard and D'Arsonval (*Compt. rend.*, Tome cviii., p. 267-272) have described some experiments which tend to confirm the idea that a volatile pulmonary poison is given off by the breath. They had previously shown the probability of the existence of such a poison in human expired air, and they have now extended their observations to rabbits. These animals were placed in a series of air-tight compartments, so arranged that the air entered at one end of the series, and after passing through each compartment in succession, escaped at the opposite end. The animal in the eighth chamber had thus to breathe an atmosphere charged with the products of respiration of the seven others, while that in the first breathed pure air.

Under these circumstances young rabbits die rapidly. Those in the 6th, 7th, and 8th chamber, die in two or three days. The air in the second chamber does not contain 1 per cent. of carbonic anhydride, and that in the last only 3 per cent. In the case of older rabbits the action is not so rapid, and in this case the last chamber may contain 6 per cent. of CO_2 . By other experiments, the authors have proved that animals can breathe a greater percentage of CO_2 than this, without inconvenience. When, in the experiments described, the air from the sixth chamber is passed through tubes, containing glass beads moistened with sulphuric acid, the pulmonary poison is removed, but the CO_2 is not absorbed. When the air thus treated is passed into chambers 7 and 8, the animals in these live without any inconvenience, whilst that in the 6th cage dies after a short time. The dead animals exhibit all the symptoms produced by the pulmonary poison, and hence the authors conclude that the poisonous action of expired air is not due to carbonic anhydride, but to a special volatile pulmonary poison.

Diamines (Ptomaines) in Cystinuria. L. v. Udranszky and E. Baumann (*Zeits. f. physiol. Chemie.*, Band xiii. S. 562-594) have had under observation a patient from whom a number of cystin calculi had been removed, and in whose urine subsequent to the operation a considerable amount of cystin continued to be excreted.

At the same time diamines were found in the urine. These diamines belong to the animal alkaloids known as ptomaines, and were named cadaverine and putrescine by Brieger. Cadaverine $\text{C}_5\text{H}_{14}\text{N}_2$ is identical with pentamethylenediamine (Ladenburg), and putrescine $\text{C}_4\text{H}_{11}\text{N}_2$ is identical with tetramethylenediamine. These substances were isolated as benzoyl-compounds from the urine, and then separated from each other by their different solubility in alcohol and ether. Cadaverine was more abundant in this urine than putrescine. The daily quantity varied: sometimes they were present in mere traces.

Since Bence Jones (*Proc. Roy. Soc.* xv. p. 73) found an alkaloid in urine, the question has often been discussed whether

ptomaines formed by putrefaction in the alimentary canal can be absorbed and excreted in the urine, and although no observers except Pouchet (*Compt. rend.*, T. xcvi. p. 1560) have succeeded in isolating such bodies from urine, yet the poisonous action of normal and pathological urine has been ascribed by many to their presence. Stadthagen (*Zeits. Klin. Med.* xv. parts 5 and 6) has, however, shown that normal urine owns its poisonous action to potassium salts. There are no diamines in normal urine or normal fæces, nor can they be found in cases of acute and chronic cystitis, in scarlatina, diphtheria, typhoid, pneumonia, peritonitis or other suppurative disease. The urine and blood of dogs is also free from them.

Brieger has detected them, however, in some putrefactive processes, especially in cultivations of the cholera bacillus, and of the Finkler-Prior vibrio (*Berl. Klin. Woch.*, 1887, No. 44.) The smell of cholera stools is due to pentamethylenediamine. In two cases of cystinuria Stadthagen and Brieger have found diamines in the urine. (*Arch. pathol. Anat.* cxv., pt. 3.) In cystinuria as in cholera they are probably produced by the agency of bacteria. In the fæces of the present case 0.5 gram per diem of these bases was formed, the tetramethylenediamine being the most abundant, whereas in the urine the opposite was the case. This is explained by Brieger's observations, as he shews that when they are produced the penta- is formed in the earlier, the tetramethylenediamine in the later stages. The former is probably produced in the small intestine, absorbed, and excreted in the urine, the latter is formed in the large intestine: hence the reason of its occurrence in the fæces. In the present case there was no increase in the amount of the ethereal hydrogen sulphates, shewing that the ordinary putrefactive bacteria in the intestines do not produce diamines.

The authors suggest that cystinuria may turn out to be an infectious disease. But the bacteria producing cystinuria are different from most pathogenic bacteria in persisting within the body for a long time—in this case for at least a year. The symptoms produced by these diamines are similar to those of

cholera (hæmorrhages and necrosis); but the muscular cramps of that disease are probably due to other poisonous alkaloids (toxines of Brieger) not yet isolated. In this case cystin was not found in the intestinal contents.

Estimation of Sugar by Fehling's Solution.—H. Causse (*Bull. Soc. Chim.*, T. I., p. 625-626) advises the addition of 4 c.c. of a 5 per cent. solution of potassium ferrocyanide and 20 c.c. of water to each 10 c.c. of Fehling's solution employed. On adding the sugar solution to the boiling mixture, the potassium ferrocyanide dissolves the cuprous oxide as quickly as it is precipitated and forms a colourless solution, thus rendering the exact point of decolourisation more easily seen and preventing bumping.

Potassium ferrocyanide is said to be without action on hot or cold Fehling's solution. On cooling the liquid obtained, after titration, it turns brown and deposits colourless crystals which have not yet been studied.

The Hypobromite Method of Estimating Urea.—R. Luther (*Zeits. f. Physiol. Chemie.*, Bd. xiii., S. 500-505) calls attention to the fact that in estimating urea by the hypobromite method, part of the nitrogen remains behind in the mixing vessel and does not pass into the collecting tube. Part of this is oxidised to form nitric acid, as Fauconier first pointed out. Another part remains unoxidised, and is present in such a form that on boiling with alkalies ammonia is given off.

In the present experiments Luther finds that at least 3-4 per cent. of the nitrogen of the urea had been oxidised so as to form nitric acid. This source of error may be avoided by adding glucose to the solution of urea, as it reduces nitric acid *in statu nascendi*. There has not been any method found as yet to prevent the loss of the remainder of the nitrogen, which is contained probably either as a cyanate or cyanurate, or as a compound with sodium bromide or bromate, and is driven off as ammonia on heating with alkali. The loss of nitrogen in this way amounts to about 1.5 per cent.

The amount of the losses varies with the concentration,

temperature, presence of other substances in solution, etc., rendering the hypobromite method an uncertain one.

Estimation of Uric Acid in Urine.—W. Camerer (*Zeits. f. Biol.*, Bd. xxvi., S. 84-111) describes and compares the different methods of estimating uric acid, such as those of Salkowski, Ludwig, Haycraft, &c., by a series of experiments made upon solutions of uric acid and on urine. As a final result, he advises the following method:—The urine of 24 hours, as fresh as possible and preferably free from deposits, is mixed with a measured quantity of sodium hydroxide solution, containing from 0.4 to 1 gram NaHO to 500 c.c. of water. This precipitates the earthy phosphates, leaving the uric acid in solution. The mixture is then brought to a specific gravity of from 1.010-1.011 by adding water. If the urine is rich in uric acid the dilution must be greater, if poor in it, less. To 300 c.c. of the diluted urine 50 c.c. of magnesia mixture is added. The magnesia mixture is that recommended by Salkowski (*Pflüger's Archiv.*, Bd. v., S. 319), consisting of 1 part of crystallized magnesium sulphate, 2 parts ammonium chloride, 4 parts ammonia (sp. gr. 0.924), and 8 parts water. The precipitate produced is filtered off. The first 30 c.c. of the filtrate is used for washing the measuring glass, the next 175 c.c. for the analysis. The fluid is placed in a beaker containing about 0.5 gram of finely-divided calcium carbonate, and then about 5 c.c. of a 3 per cent. solution of silver nitrate is added. In a few minutes the silver precipitate settles; a little of the clear supernatant fluid is removed and tested with nitric acid to ascertain if it contains silver. The precipitate is then collected on a filter and is prevented passing through the filter by the calcium carbonate; it is washed free from silver and chlorides, and dried. The amount of nitrogen it contains is estimated by Kjeldahl's method, from which the amount of uric acid can be estimated. Camerer finds that in the 24 hours' urine the relation of the nitrogen from uric acid to that in the total extractives is 1:7.4. In previous experiments he determined the relation of the total nitrogen to the nitrogen

obtained from the urea, and found that the difference was due to substances like uric acid, creatinin, &c., grouped together under the name of extractives.

Influence of Saccharin on Digestion.—Stift (*Bied. Centr. Bd.* xviii., S. 458-460), after calling attention to the fact that saccharin is not capable of being digested, but passes unchanged through the organism, relates experiments on himself by means of which he found that saccharin is slightly purgative and produces loss of appetite. He also tried its action on digestive ferments and found that it delayed the solution of proteids, the greater the amount of saccharin present the more marked its retarding action was. He therefore concludes that saccharin is a substance which interferes with digestion, and must be therefore injurious to health.

Human Bile from a Biliary Fistula.—S. M. Copeman and W. B. Winston (*Journ. Physiol.*, Vol. x., pp. 213-231) have made a series of observations and analyses on bile obtained from a woman who suffered from obstruction of the common bile duct due to a gall stone. Mr. Sydney Jones cut down on the gall bladder, stitched its edges to the wound, and then laid it open. Six or seven ounces of a glairy semi-transparent fluid, free from biliary colouring matter, was evacuated, which contained leucocytes and a few crenated red corpuscles. Although no gall stone could then be detected it was found *post mortem* close to the junction of the bile duct with the intestine. The day after the operation bile began to flow and daily increased after that time. No trace of bile could be found either in the urine or fæces, so that the authors were able to collect the whole of that secreted. They have determined the amount in twenty-four hours for several days, the variation in the flow, and its physical and chemical characters.

One of the most curious points noted was the presence of urobilin in the urine, which in this case could not have had its origin in bile pigment, but must have been a direct metabolite of hæmatin [as the Reporter has proved may be the case *Journ. Physiol.*, Vol. x., pp. 71-121]. Calculating from the quantity

obtained it is estimated the normal amount of bile secreted by the liver is about two and a half pints *per diem* for a man of twelve stone.

The rate of flow varies according to the time of the ingestion of food, a rise having generally been noted between one and two hours after a meal. The secretion is not a continuous one, the bile being extruded into the gall-bladder by the repeated peristaltic contraction of the bile ducts.

The colour of the bile was olive-green; biliverdin and not bilirubin being the pigment present in greatest quantity. Putting side by side the results of the analysis of this bile and of normal human bile as given by Frerichs the following is the result:—

<i>Constituents.</i>	<i>Present case.</i>	<i>Frerichs.</i>
Sodium glycocholate . . }	0·6280	9·14
Sodium taurocholate . . }		
Cholesterin, lecithin and fat	0·0990	1·18
Mucus	0·1725 }	2·98
Pigment	0·0725 }	
Inorganic Salts	0·4510	0·78
Total solids	1·4230	14·08
Water (by difference) . .	98·5770	85·92
	100·0000	100·00

The low percentage of solids, especially of bile-salts, is accounted for in the manner suggested by Schiff and others—that there is normally a circulation of bile going on between the liver and intestine, “a large quantity, at any rate of the bile-salts which pass into the intestines, being reabsorbed and yet again secreted.” This idea is supported by the fact that cholalic acid is found only in very small quantities in the *fæces*. No such circulation could have taken place in the present case.

Bile from the gall-bladder is always more concentrated than that from a fistula, probably because a portion of the water is reabsorbed during its sojourn in the gall-bladder. Bile is necessary for the assimilation of fat: the *fæces* in this case contained much undigested fat.

The authors think its purgative action is more than doubtful, and by cultivation experiments they have proved that it is not a true antiseptic. Bacteria grow just as well in the tubes containing bile as in those free from it. The fæces were free from stercobilin, shewing that this is formed from bile-pigments in the intestines. (The nature of the diet is not however described.)

[The Reporter (*Jour. Phys.*, vol. vi., p. 29-31) has described the results of an examination of bile obtained from a biliary fistula, the patient having had cholecystotomy performed upon her for impacted gall stones by Mr. Lawson Tait. In that case no bilirubin was present, the colour of all the specimens being greenish or yellow. The sp. gr. was found to be (for the 24 hours' bile) 1·0065 (in the present case it ranged from 1·0085 to 1·105), and the total solids amounted to 1·4915 per cent., the water to 98·5085. Moreover, it appeared that the chromogen of a urobilin-like pigment was present and that the biliverdin also was (partially at least) present as a chromogen. The above authors do not appear to have seen this paper.]

Amount of Urea in Blood and Muscle.—Gréhant and Quinquaud (*Compt. rend.*, T. cviii., p. 1092-1093) describe the following experiments:—Fifty grams of chopped rabbit muscle were allowed to remain in contact with alcohol over-night, and the latter expressed and evaporated in a water-bath. The residue was dissolved in water, placed in the receiver of a mercury pump, and the urea afterwards estimated by the hypobromite method. The results, compared with those obtained from the blood, are expressed in milligrams of urea per 100 grams substance:—

				I.	II.
Blood	...	...	...	35·1	37·8
Muscle	...	...	...	98·2	107·2

They think urea is formed in the muscles. The muscle of the ray contains fifty times as much urea as that of the rabbit.

REPORTS OF SOCIETIES.

BRITISH MEDICAL ASSOCIATION. BIRMINGHAM AND MIDLAND COUNTIES BRANCH.

A largely attended meeting was held at the Medical Institute on Thursday, Oct. 10th, the President, Mr. D. C. LLOYD-OWEN, in the chair, at which a resolution, passed by a special meeting of the Council, recommending the invitation of the British Medical Association to hold its annual meeting next year in this city was considered.

The President moved the following resolution :—“That this meeting of the Birmingham and Midland Counties Branch cordially invites the British Medical Association to hold its annual meeting for 1890 in this city during the week beginning Monday, July 28th;” and, in doing so, said it was probably known to most present that, owing to some difficulty in the necessary arrangements, the proposed meeting of the Association in London had fallen through, and that at the recent meeting at Leeds no invitation for 1890 was forthcoming. Under these circumstances the Council of the Branch had been given to understand that the Association would very cordially receive an invitation to hold its annual meeting in Birmingham; and there was felt to be something peculiarly appropriate in the Association turning to Birmingham in any day of difficulty, because this city had seen the birth of the Association, and had been more than any other associated with its growth.

Dr. Wade seconded the resolution, which was carried unanimously.

Sir Walter Foster moved the following resolution :—“That this Branch would respectfully suggest to the Council of the Association the name of Dr. Willoughby F. Wade as President for the year 1890-91.”

This was seconded by Mr. Bartleet and carried unanimously.

The meeting then nominated a deputation to attend the meeting of Council on October 16th to convey this invitation to

the Association, and appointed a Local Arrangements Committee.

The following member of the Association was elected a member of the Branch :—Mr. A. Max Sully.

Multiple Exostoses.—Mr. Haslam shewed a man, aged 20, who was the subject of multiple exostoses. Ten years ago a large one had been removed from the infra-spinous fossa of his left scapula, and later on another from the front of the right tibia. There were several others situated on his forearms, arms, and legs. In addition to these bony outgrowths there was an arrest in the development of the lower end of the left ulna and the two inner fingers; the radius was much thickened and curved, the forearm being considerably shorter than its fellow.

Foreign Body in Lens.—Mr. Eales shewed a man, aged 28, who had a piece of brass, measuring apparently 3 m. by 1 m., imbedded in the lens of the right eye, its long axis being directed upwards and backwards. Its anterior extremity projected for about half an inch into the anterior chamber at a point just 1 m. outside the centre of the pupil. The iris was intact, and the lens shewed no opacity though nine days had elapsed since the injury. Under atropine, $V = \frac{1}{1\frac{1}{2}}$ with +5.5 D to correct H. The corneal wound was a linear horizontal one of $2\frac{1}{2}$ m. length, situated just opposite the lower border of the undilated pupil.

Abdominal Section.—Mr. John W. Taylor read a review of 84 cases of abdominal section on women. Eight of these were fatal, giving a mortality of 9.5 per cent. No less however than five of these were operations undertaken during conditions essentially fatal. All of these cases were described in some detail. Mr. Taylor referred to the conditions necessary for success in operative work and to the special mechanics of the abdomen. Cases were cited illustrative of (1) the cure of sterility by removal of tumour of ovary, (2) of intraperitoneal hæmatocele, and (3) of immediate hæmorrhage. The paper closed with a short consideration of the causes and prevention of stitch-abscesses.

REVIEWS.

LECTURES ON CHILDREN'S DISEASES.*

IN these Lectures Professor Henoch has confined himself strictly to diseases which occur more commonly in childhood, or show peculiarities at that period as compared with the same affections in the adult. The value of the lectures is greatly enhanced from their being practically an embodiment of Professor Henoch's own experience gathered during more than forty years uninterrupted work in the Children's Wards in the Royal Charité Hospital and Policlinic at Berlin. This long experience enables him to illustrate every branch of his subject with cases observed by himself, and as these are given briefly and clearly they are of great service for this purpose.

The first volume, after an introduction giving instructions as to modes of examination, is divided into five sections, treating respectively of Diseases of New-born Infants, Diseases of Infancy, Diseases of the Nervous System, Diseases of the Respiratory Organs, and Diseases of the Circulatory Organs.

Under the head of Pemphigus Neonatorum, Henoch distinguishes two forms—Pemphigus Simplex and Pemphigus Cachecticus. The former he considers quite unconnected with syphilis, and although the eruption may cover almost the whole body, the palms and soles remain free from it, or if, as is occasionally the case, affected, the bullæ are of immense size, involving half of the sole or palm, quite different from the flaccid purulent bullæ of pemphigus cachecticus, which rarely exceed the size of a pea or hazel nut.

The section on Nervous Diseases is particularly full and good. Our author regards chorea as a neurosis probably arising from an irritated condition of the co-ordination centres. The cause

* Lectures on Children's Diseases. Vol. i. By Dr. E. Henoch. Translated by John Thomson, M.B., F.R.C.P. Edin. London: The New Sydenham Society. 1889.

of this irritation will often elude observation, although rheumatism in some one of its forms is the commonest. In his opinion heart affection has nothing to do with chorea, except that both are due to rheumatism, which appears to act in an unexplained way on the co-ordinating centres.

Under the Hysterical Affections of Children Henoch includes chorea magna, catalepsy, voice spasm, etc., and classes them as follows:—1, Cases in which psychical symptoms predominate; 2, Convulsive symptoms; 3, Co-ordinate movements occurring spasmodically; 4, Neuralgic and trophic disturbances. The connecting link in all these cases he finds in the tendency to combinations of varied neurotic symptoms which continually change or alternate with each other. His illustrating cases are striking and suggestive.

OUTLINES OF THE CLINICAL CHEMISTRY OF THE URINE.*

MANY of our readers will recollect Dr. MacMunn's admirable post-graduate lectures on the clinical chemistry of the urine delivered at the Birmingham Medical Institute in the spring of this year. They will welcome their reappearance in book form; while the profession at large will appreciate the advantage of obtaining in so convenient a compass the opinions and views of such a well-known and competent authority.

The book opens with a short but sufficient account of the anatomy and physiology of the kidney, which is followed by an excellent chapter on the general characters of normal urine, the remainder of the first part of the book being taken up with a description of the chemistry of the constituents of the urine in health. In this section the most important chapter is that devoted to urea, which is very full. The second part of the book describes the abnormal constituents of urine; while the

* Outlines of the Clinical Chemistry of the Urine. By C. A. MacMunn, M.A., M.D. Dub. London: J. and A. Churchill. 1889.

third part deals with urinary deposits and calculi and the alterations caused in the urine by drugs and poisons, with their detection.

It will be gathered from this description that Dr. MacMunn has produced a book which is much more than a practical treatise on the clinical examination of the urine, and in fact deserves to be regarded as a standard work of reference. If it enters into greater detail than is required for the ordinary needs of the practitioner, it will be found to contain at least all he needs to know, and will prove especially valuable to students, hospital residents, and others who desire to have by them a completely trustworthy text-book. By this work Dr. MacMunn may not add to his scientific reputation, which is based upon his numerous valuable original contributions to physiological chemistry; but he has produced a more complete and satisfactory account of the chemistry of the urine than is to be found in any other English publication, and has proved that his biological researches have not hindered him from following in the closest manner the progress of chemistry in its applications to medical practice.

ON BEDSIDE URINE TESTING.*

WE have already expressed an adverse opinion to the value of Dr. Oliver's methods of urine testing, and in this we are supported by all or almost all authorities on the subject. Dr. Oliver's test papers are ingenious, but they are surrounded by so many fallacies that they are more calculated to confuse than to enlighten those who use them. For example, the author recommends strongly the use of Tanret's test, potassio-mercuric iodide, for albumen; yet it was with this test that Chateaubourg found albumen present in 84 per cent. of healthy persons! Urine testing by the bedside may have an impressive effect on the patient and his friends, but those who wish to come to accurate conclusions will do it at home.

* On Bedside Urine Testing. By George Oliver, M.D. Lond., F.R.C.P. Fourth edition. London: H. K. Lewis. 1889.

LONDON (ANCIENT AND MODERN).*

THIS little book contains reprints of two essays delivered by the author in the beginning of this year. The first deals with London from a sanitary point of view, and sketches briefly the historical development of those conditions which at present influence the health of the metropolis. Dr. Poore especially deplores the loss of gardens or courtyards to the houses, and denounces the crowding which is constantly increasing. He suggests, as a remedy, giving power to the County Council to control the erection of buildings, to forbid their construction above a certain height, and to insist upon the allowance of a certain proportion of curtilage or courtyard to each house.

The second essay is a very interesting account of medical London, in which, without pretending to any original research, Dr. Poore has put together a great deal of information about the old buildings, corporations, and practitioners connected with the history of medicine in London. This essay is pleasant reading to everybody, but is especially interesting to those beginning the study of medicine in London, many of whom we hope will search out, with Dr. Poore as their guide, these old landmarks of their calling, and in the legitimate pride of their connection with such honourable antecedents, lay the foundations of that love for and pride in their work which are essential to the right performance of the duties of our profession.

NOTES ON MEDICAL EDUCATION.†

THIS volume contains reprints of—1, an address delivered in 1879 at the opening of the Winter Session at Queen's College; 2, an address delivered at the opening of the Winter Session at

* London (Ancient and Modern) from the Sanitary and Medical Point of View. By G. V. Poore, M.D., F.R.C.P. Cassell and Co., Ltd. 1889.

† Notes on Medical Education. By Sir James Sawyer, Knt., M.D. Birmingham : Cornish Bros. London : Simkin, Marshall and Co.

Queen's Hospital in 1876; 3, a chapter compounded of two addresses delivered in 1884 and 1885 at Queen's College and the local Branch of the British Medical Association. Most, if not all of these have already appeared in these pages, but they have been revised and re-written for the present publication.

WHAT TO DO IN CASES OF POISONING.*

A BOOK that has reached its sixth edition stands in need of no praise. It is, as might be expected, a very well arranged and useful little manual, small enough to be carried easily in the pocket. The only word of criticism we have to suggest is that the book is made the medium of advertising the antidote bags of Martindale, and Burroughs, Wellcome and Co., a practice that cannot be considered commendable. An excellent antidote bag is sold in Birmingham by Messrs. Philip Harris and Co.

HYDROPHOBIA OF 1889.†

THIS pamphlet is the work of a person who appears to possess neither sense nor education. It is destitute of information, humour, and wisdom, but replete with silly, spiteful criticisms of people whom the author is totally incapable of judging. The scope of the essay is sufficiently indicated by saying that the author treats belief in rabies as a superstition akin to belief in witchcraft, and accuses the "governing classes" of pretending to believe in it in order to gain power. We will quote one passage. "M. Pasteur, though a humbug, is evidently a practical old gentleman, who, finding his country in a dilemma after the German War of having to pay eight milliard (*sic*), the

* What to do in Cases of Poisoning. By William Murrell. M.D., F.R.C.P. Sixth edition. London: H. K. Lewis. 1889.

† Hydrophobia of 1889, its Cause and Cure: A Plea to Commute the Sentence of Six Months. Written by a Dog with a Sore Nose. Published by W. Roberts, 7, Water Lane, Ludgate Hill.

indemnity to the German nation, came to the conclusion that he would practise upon the credulous, to copy Dr. Jenner, and so get money from all parts of the world sent into France." We are certainly not averse to criticism of M. Pasteur's method, but this sort of language is not only contemptible but disgraceful. Unfortunately, as Schopenhauer says, the man who writes for fools is always sure of a large audience.

Local News.

OPENING OF THE QUEEN'S COLLEGE.

THE Session of 1889-90 was opened by a conversazione on the evening of the 1st October. The whole of the College, specially lit for the occasion with electricity by Messrs. Fowler and Lancaster from the Electrical Exhibition, was thrown open to the visitors. There were a number of exhibitions on view throughout the evening. In the Dissecting Room, which has during the vacation been entirely re-fitted and supplied with new lighting and ventilating apparatus, were a number of anatomical models, after Professors Cunningham, His, and others. In the Materia Medica Museum Messrs. P. Harris and Co. exhibited new drugs and apparatus, and Messrs. Burroughs and Wellcome new preparations, amongst which Dr. Ward Cousins' antiseptic ear-drum, glycerine suppositories, and hydrarg. iodic—a new and powerful antiseptic—were the greatest novelties. In the Museum Messrs. Salt exhibited surgical instruments and appliances, Messrs. Best and Son a new fracture cradle, and Messrs. Fowler and Lancaster electrical apparatus. In the new Medicine Theatre was a collection of teratological specimens exhibited by Professor Windle.

At the distribution of prizes, which took place in the Examination Hall, the Rev. the Warden presided, Professors Pemberton and Wilders presenting the College and clinical prizes respectively. The report, which was read by the Hon. Sec., Professor Windle, shewed that for the first time the number of students

on the rolls exceeded 200, there having been 225 during the past year. A new Theatre had been fitted up during the year, and a new Anatomical Museum and Pathological Laboratory were in course of construction. The following is the prize list :—

PRIZE LIST, OCTOBER 1ST, 1889.

	MEDAL.	CERTIFICATE.
<i>Medicine</i> - - - - -	- - - - -	{ Harold Mason
		{ S. Greenwood
<i>Surgery</i> - - - - -	- - - - -	S. Greenwood
<i>Anatomy (Sen.)</i> - - -	C. F. M. Ward -	T. W. Beazeley
<i>„ (Jun.)</i> - - -	{ J. R. Hickinbotham -	{ A. Berlyn
	{ A. Martin -	{ F. H. Marson
		{ R. B. James
<i>Practical Anatomy (Sen.)</i>	{ T. Beazeley -	{ H. Motteram
	{ C. F. M. Ward -	{ J. H. Sproat
<i>„ „ (Jun.)</i>	{ J. R. Hickinbotham	{ A. Berlyn
	{ A. Martin -	{ R. B. James
		{ J. E. Hickman
		{ F. H. Marson
<i>Chemistry</i> - - - - -	- - - - -	H. Shore
<i>„ Practical</i> - - -	H. Shore - - -	J. E. Hickman
<i>Physiology</i> - - - - -	T. Beazeley - - -	{ J. H. Sproat
		{ C. D. Marson
<i>„ Elementary</i> - - -	- - - - -	{ J. A. H. White
		{ H. G. Dain
		{ H. Shore
<i>„ Practical</i> - - -	{ W. A. Marris -	{ J. A. Berlyn
	{ J. A. H. White -	
<i>Botany</i> - - - - -	- - - - -	H. Shore
<i>Forensic Medicine and</i>	{ C. D. Marson -	L. P. Gamgee
<i>Toxicology</i> - - -		
<i>Psychological Medicine-</i>	- - - - -	E. H. Snell
<i>Midwifery & Gynecology</i>	- - - - -	{ C. R. Lunn
		{ C. A. Green
		{ W. J. Royal
<i>Dental Surgery</i> - - -	- - - - -	{ G. Foster
		{ C. A. Hodson
<i>„ Anatomy</i> - - -	- - - - -	{ G. Foster
		{ C. A. Hodson
<i>„ Mechanics</i> - - -	- - - - -	{ C. A. Hodson
<i>Senior Clinical Medicine</i>	- - - - -	G. J. Dudley
<i>Junior „ „</i> - - -	- - - - -	G. Kendrick
<i>„ Surgery</i> - - -	- - - - -	C. R. Lunn
<i>Clinical Operative Dentistry</i>	- - - - -	E. Parrott
<i>Physics</i> - - - - -	- - - - -	{ G. P. L. Gregory
		{ G. A. Wilkes
<i>Sands Cox Prize</i> - - -	- - - - -	J. F. Jordan

Prosecutor's Certificates.

S. H. Perry, L. P. Gamgee, A. W. McMichael, C. A. Green.

After the distribution of prizes a concert, under the direction of Dr. Crooke, was given in the Anatomy Theatre, the performers being teachers and students.

Refreshments were served during the evening in the Dining Hall.

REPORT OF THE COUNCIL.

The report of the Council of Queen's College to the annual meeting of Governors for the academical year ending Michaelmas, 1889, states that with respect to the medical department the total entry for full and partial curriculum was 59. The number of students on the books was 225. The Council regard the growth of the school with satisfaction, this being the first year in which the numbers have exceeded 200. The number of passes obtained by students during the year was 178. Of these 3 were at University intermediate examinations, 6 at final; and 128 at intermediate and 41 at final examinations of licensing corporations. The total number of past students now in practice, as far as can be ascertained, is 593. Dr. Hogben having resigned the post of medical tutor, Dr. Mahood, who had been assistant medical tutor since October 1, 1888, was elected in his stead. The recent increase in the number of students—the number having nearly doubled itself in the past six years—has obliged the Council to take into serious consideration the question of providing increased and improved accommodation. They accordingly gave notice of termination of tenancy to the tenant of the interior of the College, Mr. Grove, with a view of securing further space, and appointed a special committee to report as to the best method of utilising it. The committee, having inspected the premises, held several meetings, at which plans of improvements were prepared and tenders obtained to carry them out.

The committee reported (1) that the Dissecting Room should be fitted with new ventilating and lighting apparatus; that the upper room should be provided with a new floor, and that fresh tables should be provided throughout; (2) that a new theatre should be fitted up in the Pathological Laboratory, to be used

for all lectures save those on anatomy; (3) that a new Pathological Laboratory should be fitted up in the upper part of the same building; and (4) that the Dining Hall be converted into an Anatomical Museum, with a curator's room, and connected by a passage with the present Museum. They also recommended that the tender of Mr. Turner, of Lansdowne Street, be accepted.

During the vacation those parts of the plan which relate to the Dissecting Room and new theatre have been carried out, and the remainder will be executed immediately upon the termination of the tenancy of the present occupants and in time for use in the next summer session. The museum extension is much required in consequence of the rapid growth in size of the pathological and anatomical collections. The Council have during the past year had to acknowledge with thanks the deposition in the Museum of a collection of over 150 specimens from the museum of the General Hospital, many of which specimens are of a considerable value.

During the year Dr. S. Barwise, a former student, has been appointed Medical Officer of Health for Bradford; Dr. Purslow, a former student, has been appointed Obstetric Officer to the Queen's Hospital; and Dr. Jordan, also a former student, has been appointed Demonstrator of Physiology in the Mason College. Mr. Jordan Lloyd has been appointed Assessor in Anatomy at the first examination, and Professor Windle Examiner in the same subject at the second examination, for the degrees in medicine of the University of Durham.

The Council have to report that "the condition of the Theological Department is satisfactory, though it does not shew any great increase in the number of students. This is no doubt owing to the high standard required for the final examination. The maintenance, however, of such a standard is of great importance, not only to the students themselves, but also in the interests of the Church." During the past year seven students have been ordained—four priests and three deacons. The Rev. F. S. Beale has taken his B.A. degree at the University of

Durham, and the Rev. F. G. Tompkins gained an honorary fourth class at the examination for his B.A. degree. The Rev. G. S. Atkins has been appointed to Knappagh Rectory, near Westport, county Mayo.

The following members of the Council retire this year by rotation—viz, The Right Hon. Henry Matthews, Q.C., M.P., Sir James Sawyer, M.D., Dr. Alfred H. Carter, and Mr. Lawson Tait. These gentlemen are eligible for re-election.

The accounts, audited by Mr. O. Holt Coldicott, shew that the fees received from students in the Theological Department were £309. 4s. 6d., and in the Medical Department £2,526. 16s. 10d.

Letter to the Editor.

MEDICAL AID ASSOCIATIONS AND FRIENDLY SOCIETIES.

SIR,—An attempt having been made here to start a branch of the "National Medical Aid Company" and a Medical Aid Fund for the families of a Lodge of Oddfellows, a meeting of the medical men of this district was called to discuss the question; and, as a result, the following pledge has been signed by 21 out of 23 of those either in or retired from practice. One of the exceptions is a retired surgeon, the other a practitioner who has promised to sign it as soon as he is free from his medical refereeship, of which he has sent in his resignation, to the National Medical Aid Company. Such societies are so pernicious, and have been so disastrous elsewhere to our profession, that we felt it necessary to make a stand against their establishment here; and a copy of the pledge is sent to you for publication with this, in order that our profession in other places may be strengthened against such combinations against its well-being.

"We, the undersigned members of the medical profession of

Malvern and its neighbourhood, taking into consideration the fact that there are well-established Provident Dispensaries in our midst, pledge ourselves not to undertake the care of families of members of Friendly Societies at a contract rate of payment."

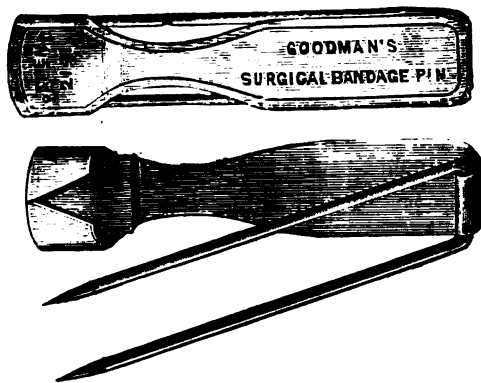
Yours faithfully,

STANLEY HAYNES, M.D.

Malvern, 30th Sep., 1889.

NEW INVENTIONS, DRUGS, ETC

GOODMAN'S PATENT NICKEL-SILVER SURGICAL PIN.—This pin has the advantage over the ordinary kind of being more secure, and of presenting a flat, smooth surface which does not catch against surrounding materials. It is also non-corrosive.



PATENT THERMO-SAFEGUARD FEEDING BOTTLE.—It seems to us that it is rather an unnecessary refinement in the dietetic management of infants, to insist upon the employment of a thermometer for the purpose of estimating the temperature of the food; and we venture to think that the time-honoured maxim of "taste before you try," is amply sufficient to meet the case. But for those who desire greater exactitude, we can confidently recommend the very convenient feeding bottle introduced by the eminent firm of Burroughs, Wellcome and

Co., under the above name. A small thermometer is inserted in the substance of the bottle so skilfully, that there is little risk of breakage, and the temperature of the food may be easily observed. The bottle is provided with interchangeable stoppers, so that it may be used either with or without a rubber tube.

Miscellany.

THE ELIXIR OF YOUTH.—This is the way the Americans revenge themselves for having been the only civilised nation that has given any credence to Brown-Séquard's recent discovery :—

"Many curious experiments were made in Paris by Dr. Brown-Séquard in the early stages of his elixir experience, according to the local physicians there. Most of those experiments were made on animals. He was greatly gratified. Into the fore-leg of an old horse, that was so worthless on account of age that in another day he would have been in the soup—the mock turtle soup of Paris—he injected his elixir. In an hour afterward, with bright red nostril and tail neatly draped over the dashboard, he sailed up the Shonz Eleeza knocking spokes out of valuable carriages all the way up to the Arc of Triumph, where he chipped out about five cents' worth of the corner of that great work and piled up Dr. Brown-Séquard in a chaos of clothes and contusions. His first anxiety was to find out, of course, whether the hyphen had been knocked out of his name. Finding that it had not he returned to his experiments. He also secured an old dog with thick hearing and pronounced flagging of the mental powers. The dog was so old that he had forgotten everything and so blind that a French soldier in red gored trousers did not startle him any more. After a dose of the elixir he wagged his tail, a thing he had not done for years. Then he yawned and ate some grass. He then noticed a cat on the lawn, one that had grown old with him, but had not had a nip of the elixir. He took after her and in two minutes he had her quivering remains on the grass. By four o'clock he had gone back to puppyhood and had chewed up Dr. Brown-Séquard's white gaiters, a pair of lace curtains, and a child.—BILL NYE."

DR. BROWN-SEQUARD.—The name of Dr. Brown-Séquard having lately been brought before the public eye more frequently than heretofore, considerable curiosity has been expressed as to his nativity. To satisfy this very natural desire, we will state that the doctor was born in 1818 in the island of Mauritius, where his father, Edward Brown, a native of Philadelphia, and previously master of a merchant vessel, was engaged in business. His mother was a French woman named Séquard, who lived on the island. All of young Brown's preliminary studies were made in Mauritius, and it was not until he had reached the age of twenty that he went to Paris to complete his medical course and take his degree. The language of his family and his youth is French, and he speaks it better than English, although in writing he has an equal command of either tongue. He has been married three times—first to a Miss Fletcher, of Boston ; secondly, to a Miss Carlisle, of Cincinnati ; and his third wife, who is still living, is an English woman, the widow of an Irish engraver named Doherty.—*American Analyst.*

THE FAITH CURE.—In a recent sermon Sam Jones delivered himself as follows concerning the faith-cure brethren :—"I'll tell you where this faith-cure comes in—There's an old brother and sister who have been taking all the nasty patent medicines in the market for the last ten years ; somebody comes along and prays over them, and they quit using the patent medicines and they're well again. They say it was faith cured them. It was faith. It was the faith which caused them to quit taking patent nostrums which cured them."—*New York Med. Record*, Sep. 14, 1889.

New Books, etc., Received.

- A Contribution to the Surgery of the Spinal Cord. By WILLIAM THORBURN, B.S., B.Sc., M.D. Lond. London : Charles Griffin and Co. 1889.
 A Treatise on Gout. By Sir DYCE DUCKWORTH, M.D. Edin. London : Charles Griffin and Co. 1889.
 Introduction to the Treatment of Disease by Galvanism. By SKENE KEITH. London : Truslove and Shirley.
 A Year's Experience with Apostoli's Method, with Reports of Cases. By A. LAPHORN SMITH, B.A., M.D. Reprinted from the *American Journal of Obstetrics*, August, 1889.
 The Electrical Illumination of the Bladder and Urethra. By E. HURRY FENWICK, F.R.C.S. Second edition. J. and A. Churchill. 1889.
 The Essentials of Medical Anatomy. By A. R. KENWOOD, M.B., C.M. Edin. and Lond. : Young J. Pentland. 1889.
 Handbook of Obstetric Nursing. By FRANCIS W. N. HAULTAIN, M.D., F.R.C.P. Edin., and J. HAIG FERGUSON, M.B., F.R.C.P. Edin. Edinburgh and London : Young J. Pentland. 1889.
 The Treatment of Pleurisy and Empyema. By BYROM BRAMWELL, M.D., F.R.C.P. Edin. Edinburgh and London : Young J. Pentland. 1889.

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THE
BIRMINGHAM MEDICAL REVIEW.

DECEMBER, 1889.

ORIGINAL COMMUNICATIONS.

ADDRESS TO THE ABERNETHIAN SOCIETY
AT ST. BARTHOLOMEW'S HOSPITAL.

OCTOBER 10TH, 1889.

BY OLIVER PEMBERTON, F.R.C.S.,
SENIOR SURGEON TO THE GENERAL HOSPITAL, BIRMINGHAM.

I REGARD your having asked me to address you on the occasion of the opening of the Winter Session of your Society as a distinction of no ordinary character. Allow me to assure you that whatever trouble or thought the undertaking may have cost, I shall be amply rewarded, should I, if only for a brief time, excite your interest in a chapter of the "Book of Surgery." A chapter, telling of some part of the story of that science and art—of life and death—as practised within these walls; as read and interpreted by myself in an experience of forty years, and whose first page only has been glanced at by you.

Hereafter, it may happen that to one of you the task may be allotted that I have undertaken to-day, that the retrospect of your time may more than compare with the records of my own. Let me indulge this hope. The beneficent workings of surgery are not more likely to move on slower in the future than they have in the past. On the contrary, the deeper the enquirer pursues his way, making fresh paths of investigation, the greater should be the find. The mine of surgical knowledge, with all its years of research, is entailed as a freehold on you, and on

your successors. Your dealings with this inheritance are made easier by the labours of your predecessors, your return therefore, should, and must be, in expectancy, proportionately greater.

But whilst I foretell these increasing advances, for you in science, I shall deny to you another of a different kind. In one respect, in our medical lives, each successive generation cherishes its own estimate of the value of friendships—of friendships formed in student times and carried on without a break far into life. I will anticipate for you the attainment of a friendship such as I formed in my early days here, equal to mine; but I do not think you will surpass my realisation of its value, or dispute with me the high character of the surroundings that have from the first belonged to the man in his youth or his prime.

Gentlemen, I allude to Mr. Savory, now senior surgeon of this great hospital, and within a few months for the fourth time, President of the Royal College of Surgeons of England.

No observations on the progress of surgery in my time or season could be complete without a reference to anæsthetics, to the foundation of those beneficent measures for the relief of human suffering, which will mark for ever the close of the year 1846. You cannot picture to yourselves the scenes that were then witnessed in never varying sameness. Pain always—agony frequently—torture sometimes—were the accompaniments of the art of surgery in the operating theatre and the accident room. Countless operations that would have prolonged, or saved life, were left undone, and it is not saying one word too much that the hand of the surgeon was paralysed in the face of torments such as these, pursuing his undertakings.

Incidents of this character, inseparable from the practice of our profession, deterred many from entering on its study; and to this day the remembrance of the first four years I passed in the pre-anæsthetic days of my hospital work can never be forgotten.

Those who may wish to learn the details of the first instance in which ether was used during a great surgical operation will find the information contained in a paper by Dr. William Squire,

entitled "On the Introduction of Ether Inhalation in London," communicated to the *Lancet*, vol. ii., 1888, p. 1,220. The operator was Liston, and the case one of amputation of the thigh, and the date the month of December, 1846. Previously to the introduction of anæsthetics, rapidity in all operative proceedings was not only essential but humane; and in this instance Liston, who was unrivalled in the celerity of his movements, outdid himself, forgetting, I suppose, that his patient could not feel pain; for it is recorded that "only twenty-eight seconds elapsed from the first use of the knife to the last touch of the saw."

There can be no question—and this you will find out for yourselves—that nothing varies so greatly amongst individual men and women as the power to endure pain. I well remember, in the days I have mentioned, in my own hospital seeing an old woman from whom, as she sat in a chair, a large bony tumour had been removed, involving the top of her upper maxilla, and whilst the V-shaped flap was yet hanging unsutured, quietly stoop down and pick up a pin from the floor and put it in the front of her dress. I once operated on a game-keeper by trephining, whose skull had been battered in, and having nearly ended after removing some nineteen fragments—he had been absolutely silent from the commencement—when he suddenly said he wished to know when the diggings up above were likely to be ended. In a case where a double amputation for frost-bite was needful just below the knees, the man held the thighs himself, and simply said on the removal of the second, "It was sharp; but the saw did not cut so well through the second bone as it did through the first."

I do not remember who first used the expression "conservative surgery;" but whoever did selected a term which served admirably to convey the inauguration of a most important period of progress, and which may be said to have culminated during the first decade—from 1850 to 1860—of the time to which I am referring. Perhaps no better summary of the meaning of the words can be found than contained in Skey's

description in 1851: "Conservative surgery aims at restoration rather than substitution—which truly regards the knife as a last resource, and its employment under any circumstances as a confession of ignorance." With conservative surgery, however, will ever be associated, as first and foremost, the name of James Syme—a master in surgery and of surgery of imperishable fame.

It had been customary to amputate in the leg generally at its upper 3rd for disease in the ankle joint or the tarsus. The destruction of the elbow joint involved the loss of the limb at some point below the shoulder. In amputation at the ankle, with the covering of the stump provided from the natural pad of the heel. In excision of the diseased parts from the elbow and the retention of the movements of the joint are afforded illustrations of the meaning and importance of this particular phrase. The recognition of these instances as established lines of treatment—they had been, as is usual, long in adoption and subjected to almost every form of hindrance—led Fergusson to the revival of excision of the knee, and laid the foundation for that treatment of tubercular diseases of that joint, especially in the young subject, which is one of the most brilliant achievements for saving limbs at this time.

This, then, is what is meant by conservative surgery; and I assuredly claim it, though planted in the thoughts of surgeons much earlier, as having grown to maturity only in the period of which I have spoken.

And here let me ask your forgiveness if I seem to lay too great a stress on the influence of one man—on the extent to which a single mind, from its solitary standpoint, creates an epoch. Nevertheless, in the history of science, and of ours in particular, it is absolutely true. Not to refer more particularly, it is what Priestley and Davy did in chemistry, Hunter in physiology; and I am prepared to maintain against all comers that Syme accomplished it in surgery. Hear what "our own" Sir James Paget says of Syme when speaking on the value of rivalry to schools and men, at a public meeting held in London

in 1869, on the occasion of his resigning the chair of clinical surgery in the University of Edinburgh. He says: * "I have never been a pupil of Professor Syme other than I hope to be a pupil of other great men, by studying their works and trying to imitate their good example. Instead of speaking of Prof. Syme as a teacher, I speak of him as a rival—a member of a rival school. No man can have watched himself carefully without finding out that it is to the influence of his rivals over him, rather than to himself, that he owes the great measure of the success which he achieves. I doubt whether anything has done more good to the London schools than the honours Prof. Syme has won. With him we have been rivals."

If I were asked to tell you what, in my opinion, had effected the greatest change in the surgery of wounds and of arteries, I should reply, the substitution of animal substances for the hempen materials that so long held their own in the arrest of hæmorrhage, and in the treatment of aneurism.

The small silken thread, or fine strong whip-cord, around an artery in its continuity or at its divided extremity—the ends hanging out from the wound—were ever sources of deep anxiety, arising from causes often remote from each other, and wholly unexpected. The casting off, by the process of sloughing and suppuration of the ligature as the supreme day approached, was watched by the surgeon with trepidation. If thrown off too soon—would the coagulations in the severed vessels prove abiding ones, or had unhealthy inflammation, that loosened their hold, opened the way for secondary hæmorrhage to occur at any moment that an additional impulse from the heart—an alarm or sudden movement—broke through the clot. With what feverish anxiety, in what we may now term "the olden days," was this coming away of a ligature watched. I watched one once where I had tied the common femoral, for forty days ere its detachment was accomplished. You dare not be rash enough to pull at a tardy ligature—you might give it a turn or so, that was all. I remember to have heard that when an

* Life of Syme. Paterson, London, 1874, p. 308.

eminent physician—now a good many years ago—had to undergo amputation through the thigh, the ligature on the main vessel lingered, to the despair of the two great surgeons in attendance, doubly anxious for the safety of a professional brother. Each suggested to the other to take a turn at the string, and at last a turn was made, and the ligature came away accompanied by smart hæmorrhage, bright in colour and evidently arterial, but the coagulum held firm, and pressure arrested the flow which was evidently due to granulations.

These facts tell you conclusively of the drawbacks attendant on the most successful use of the hempen ligature ; drawbacks not alone in connection with secondary hæmorrhage, but with the production of suppuration and consequent delay in the healing of wounds. The endeavour to limit this led Simpson to the use of acu-pressure, and with the same view Sir Joseph Lister renewed the investigations commenced and abandoned in the earlier years of the present century as to the best form of animal ligature which, whilst on the one hand it should prove sufficiently absorbent and unirritating, should also be so enduring as to render assured the due formation of a clot of such a character as would prove sustaining until repair was complete.

But whilst I have laid special stress on the almost limitless value of animal ligatures, let me ask your consideration of the altered conditions under which wounds in almost all situations and of all characters were being dressed. Conditions that anticipated the use of these materials, and in their application attained the crowning glory of success for operative surgery. I don't care by what name you designate the system of anti-septic surgery, whether you make use of means to prevent the lodgment of putrefying materials within the cavities of wounds themselves—or avert their entrance from without—in either case, I believe we arrive at the same conclusion that the chief factor in question is how best to carry out absolute and complete cleanliness. That this did not prevail as the dominant instinct guiding surgeon and attendants throughout our hospital system in the kingdom is beyond dispute.

The fatality attending primary amputation, the prolonged healing of wounds, the frequent incidence of sloughing and secondary hæmorrhages of pyæmia, and even of hospital sore, all these calamities dogged the footsteps of the surgeon and added a new terror to his responsibilities. Disasters, which recent experience has proved to us need not have happened, attended very trivial wounds into the interiors of joints and the cavity of the peritoneum.

Let me tell you what altered this and how it came about. I confess, remembering the past, a miracle might seem to have been at work, but like the miracles that happen in our day, it is one quite susceptible of solution. The teachings of Professor Lister, based on observation and experience, effected the change. Slowly, surely they have advanced, overcoming doubt and prejudice, until the argument by results is accepted by those who were for so long in the ranks of the incredulous. The development of this system and its special application to the work in hospitals I shall claim as the greatest event in the surgical history of my time. From the head to the foot there is scarcely an operative proceeding that has not been advanced in safety and completeness by its principles being carried into practice.

Take the instance of brain surgery to commence with:—Recovery from the operation of trephining the skull for intracranial suppurations in former days, and according to the authority of Guthrie, who had ample opportunity of experience at the time of the great war, was well-nigh unknown—an opinion confirmed later and nearer to these days by Sir Prescott Hewett. This well-recognised fatality led but too frequently to the surgery of delay—to the advent of those inflammatory sequences that were almost certain to seal the fate of the patient. Now, an increasing confidence is inducing surgeons to explore the brain in various forms of chronic disease. Yet more important is the recognition of the absolute duty of the surgeon in all cases of depressed fracture of the cranial bones in which the smallest doubt exists, either as to

present or future mischief in the brain coverings, to at once expose the seat of injury, thus placing the advent of symptoms dangerous to life beyond probability.

In the abdomen the most wonderful advances have been made. In my early days the peritoneum, merely in name, seemed to convey a warning to the surgeon. Wounded in tying the great vessels, or torn in lithotomy, the case was too frequently completed without hope of recovery. Let me ask you, What have we before us now in our dealings with this peritoneum? The treatment of diseases of the kidney, the gall bladder, of wounded intestines and bladder, and of diseases special to women, in the beneficent results attendant on the operations performed for their relief, we have the answer as to the extent of our present fear in dealing with the peritoneum.

What is true about the peritoneum is equally true about synovial membranes. Mutilation for an opened joint is the very rare exception rather than the rule.

Enough, the principles involved in the antiseptic system, in whatever way and by whatever means carried out, mean an unremitting attention to details, to the use of covering materials that render constriction impossible, of chemical fluids that destroy the evil germs in pus, and as I have said before, underlying all these things is the one godly necessity, never to be forgotten, of cleanliness.

In the sketch I have laid before you as to what forty years has accomplished for the progress of surgery in my time under the headings of anæsthetics, conservative surgery, animal ligatures, and the antiseptic system, I have, I venture to think, supplied you, Gentlemen of the Abernethian Society, with a basis for comparison of what has been accomplished in my past with the anticipation of what may be in your future. You will have abundance of materials for discussion; and in order to bring to your thoughts from time to time as to what is yet wanting or grievously deficient—for there can never be finality in our calling any more than that we can hope for the ending of sin and sorrow and human suffering around us—I will mention

one or two matters for your consideration under the heading of "Desires for the Future."

In this future, first and foremost, I must speak of cancer—the cure of malignant disease! It has been my lot to have seen as much, and to have thought as much as most men living of cancer. Truly melancholy are the words I must utter on this subject. The cure of this destroyer of human life is no nearer to us at this moment than it was forty years ago, and then no nearer than it had ever been in its previous history. Further, it is thought, and not without reason, that its ravages amongst all classes, men, women, and children—among rich and poor—the strong and the weak, are rather on the increase than the contrary. These years have, in all truth, added greatly to our knowledge of its pathology, have enabled us accurately to foretell and generally to classify the degrees of malignancy as well as to measure the rates of progress in the various types of the disease. Moreover, I think we are able to tell our patients when life can be prolonged, or misery relieved by operation, but there, if we are honest, our ability to promise anything beyond ceases altogether.

Let us be thankful for having gained so much, and with the certainty of this advance in our clearer recognition of the disease, let us here, in a theatre of St. Bartholomew's hospital, express in words of admiration and gratitude the sentiments one and all entertain for the man and the teacher, Sir James Paget, without whose investigations, patiently, thoroughly, with heart and soul, carried on during those forty years we had yet been in a wilderness of uncertainty, and mankind would have had to bear a burden unlightened by any fair promise of relief.

No hospital surgeon can have failed to confess the feeling of dismay and helplessness with which he observes the advent of traumatic tetanus. The seizure, suddenly present, with hardly a warning, certainly not to be forecast in either the character or progress of any given injury, holds the ill-fated patient in unremitting convulsions. With rare exceptions death by vital exhaustion terminates the case without much delay, and we

remain powerless to the last with our remedies, and without guide as to how best to rescue the next martyr, for here death is silent as to the cause, the scalpel of the pathologist having nothing to reveal. Now and then, why we cannot tell, a case does recover, the earlier symptoms abate, and though some remedy is vaunted for the nonce, I think, natural causes have the greater right to claim the victory.

Closely allied with tetanus is rabies, well-nigh as fatal and, until recently, without hopeful remedy. It may be that Pasteur's treatment by inoculation is on the right road to success, and may render unfruitful the seeds of the virus that have been sown; but I am not aware of any single instance having occurred in which the actual symptoms of rabies having commenced that has not passed on to the fatal end. Parry, who wrote in 1814, speaking of the disease, says: "It is a truly deplorable one, inasmuch as, in the present state of our knowledge, it infallibly condemns the patient to death without the smallest chance of reprieve." Has this ceased to be true? I have myself watched and treated four such cases from the day of injury, on through the period of incubation to the commencement of symptoms and to their termination, and, save by the ameliorating influences of chloroform and opium, have had not the faintest remedy. If the moral law did not reign supreme in all our breasts—to preserve life to the last moment in the face of a death the most assured and agonising that can be imagined—"Euthanasia" here had not been appealed to in vain.

To the foregoing the future has in compass the further development of brain surgery, of the surgery of the contents of the chest—both, especially the latter, in their infancy; and to these may fitly be added the consideration of the treatment, by practical measures, of internal aneurisms. It seems hard to be able to promise the saving of human life by our treatment of arteries in the limbs, approved in numberless instances, and then to view the same structural defects in the larger and internal vessels defying our efforts.

If I seem to have laid unusual stress on these wants, I pray you do not imagine that there are not many more openings presenting themselves to the enquirer, who will never admit that when one thing is well done and finished he is not able to provide himself with a "next."

For nigh two hundred years this hospital has by its staff been steadily advancing the progress of surgery. All in the roll of this long period have added, according to their special gifts and endowments, some contribution to lessen the effects of injury or disease. But there are some names that stand out conspicuously beyond the rest; and to these I would refer, inasmuch as it is to them, the pioneers of the advances that the past forty years have witnessed, that surgery owes so much. The race of these typical men is by no means exhausted; it is yet in evidence amongst you; and be it your endeavour that its numbers are not diminished in your time.

In this great past I shall place before you the names of Percival Pott and John Abernethy; in a younger past, within reach of the memory of many of us, and hardly yet away from their strong and living personality, those of William Lawrence and Frederick Carpenter Skey.

Pott, for nigh forty years (from 1749 to 1787) was Surgeon to the Hospital. Essentially of a practical turn of mind, he applied his talents with remarkable success and originality to the development of the Art of Surgery—advisedly I use the term art, for the development of its science at the hands of Hunter could scarcely have influenced the practice of this master of the handy-craft of surgery.* The record of his work, of his investigation into numerous surgical diseases in a series of essays, remarkable for elegance, as well as simplicity in diction, left to us by Earle, will last as long as surgery itself. Who is not familiar with his puffy tumour of the scalp, the discrimination of which to this day continues, without close attention to the directions he has laid down, to puzzle the teacher as well as the

* Hunter died in 1793, five years after Pott, who was born in 1713, or fifteen years before Hunter.

pupil ; or with those "effects of fracture of the fibula" too frequently illustrated for us in the damaged and deformed ankles that we encounter ; or yet more on that "curvature in the spine inducing palsy of the lower limbs?" No treatise on surgery, in whatever language written, or spoken, but yet bears witness by reference to his name, as for all time to be associated with the correct understanding of the treatment of these conditions of disease and accident.

With Pott's resignation in 1787 the advent of Abernethy's connection with the hospital commenced—a connection that lasted for forty years ; and it may be a certain solace to the assistant-surgeons of this day to reflect on the fact that no less than twenty-eight of these were passed in that honourable position. Whatever responsibility, however, fell to the share of this remarkable man in either of these offices, there is no doubt of the fact that he recognised the importance of teaching in such a way that within four years of his appointment as assistant-surgeon, the Governors of the hospital erected for the first time a regular theatre within the hospital precincts, and here Abernethy delivered the winter lectures on anatomy, physiology, and surgery.

To Abernethy must be awarded the merit of having founded the school of St. Bartholomew. The few lectures given by Pott were, I take it, admirable clinical lectures in their day ; but no regular anatomical school existed. It is true that outside the circle of which St. Bartholomew's was the centre some earlier advances in the establishment of systematic lectures had been made, notably in the kindred hospital of St. Thomas, where Cline began ten years previously, following in the footsteps of that great father of English surgery, William Cheselden, with whose name must ever be linked the earliest mention of lectures being viewed as a part of hospital work.

We have it on authority that Abernethy closely followed the teachings of Hunter, was a constant attendant at his lectures, and endeavoured as far as possible to imitate his example by studying, through anatomy, the general economy of organised

beings, and, through physiology, that "science of observation," surgery, the application of which to its practice was the crowning glory of Hunter's career. Whatever views may be entertained of Abernethy's interpretation of Hunter's ideas of "Life"—of his opinions on the origin and actions of living bodies—whether he was correct in his interpretation or the contrary—whether he was wise in raising a tumult that served no other purpose than all tumults have served in all times of history, the delaying the spread of the truth—is no question for us here. It is a matter that has long since been put aside. But what does concern us here is the practical use that Abernethy made of Hunter's investigations.

Hunter, about 1785, had established principles on which aneurism in the limbs could and should be cured, the femoral artery being the seat of treatment. Abernethy in 1797 carried onwards Hunter's views, and for the first time applied a ligature to the external iliac. This enterprise, though unsuccessful, secured imitation and nine years later Freer in the Birmingham hospital tied the same vessel for the first time successfully, Abernethy following shortly after with a similarly successful issue.

In other ways surgery is indebted to Abernethy. His views on immobility in the treatment of joints, on the union of intracapsular fracture in the neck of the femur, and I could multiply examples—I refrain. You may be led by what I have said to enquire further for yourselves. I will express but one other thought which my contemplation of Abernethy's career has created. It is that to him more than to anyone I know in the period I am considering, is owing the proof that the responsibilities of physician and surgeon could be combined in the same person. A man who is a surgeon only, says Billroth, "is like a bird with one wing." This reading of the inseparable union of medicine and surgery is accepted at this time, but it was not so when "My Book" "On the Constitutional Origin of Local Diseases" was published.

The memory of William Lawrence is yet vividly before us.

No words of mine can adequately convey to those who knew him not what he really was—his pre-eminent talents, his power as an orator, as a conversationalist, as a writer—all these endowments, cultivated and strengthened by an indomitable spirit of personal confidence combined to make him an absolute power in his own science, and an acknowledged chief amongst those men whose enquiries, broad and speculative, surprised and in some instances dismayed the English-speaking world.

The personal influence of Lawrence was amazing. Apart from his mere expression of an opinion or a judgment on any individual matter or case, it seemed as if an irresistible mental authority accompanied his words, altogether unlike the utterances of others, and compelled assent to his decisions. This remarkable individuality will make it impossible for those who hereafter read or think of Lawrence to explain how it was that he for so long indisputably stood in the front rank of the intellectual life of this school. General surgery stood deeply indebted to him for what he accomplished as a teacher and writer during the more than forty years he was full Surgeon to the Hospital. His works on Hernia, on Diseases of the Eye, were of special value at their time, and yet are monographs admirable in composition, arrangement, and completeness. His lectures on Physiology, Zoology, and Natural History of Man, are unrivalled for lucid and graceful exposition; and at the close of a life, prolonged and eventful, his lectures on Surgery afforded an illustration of the vast experience that had been at his command. As Mr. Savory remarks, "No brilliant discovery will connect itself with his name, but the record of his entire work. This should suffice to secure his place and fame in the future."

A quarter of a century has passed away since Frederick Carpenter Skey ended his connection with this school. To those of us who knew him, no kinder friend, no more thorough and original teacher, no better or more brilliant operator can be imagined. Skey was essentially a conservative surgeon. He looked on operations as a painful necessity, and as an acknowledgment of surgical defeat, never of victory. I know

of no observations so worthy of attentive study as his exposition of the principles that should regulate the judgment of the surgeon in reference to the performance of operations generally. They have been quoted ere this, but their repetition only serves to impress their value on our minds, as they have the ring of "true metal," and point to a moral obligation, not always evident as the guiding star to the surgeon to stay or put out his hand.

"I have endeavoured," he says, "as an English Metropolitan surgeon, to carry into execution at least one primary object, viz. : to strip the art of operative surgery of a false glare, mistaken by the ignorant for the lustre of real excellence, to check a spirit of reckless experiment, and to repress, or other than encourage, the resort to the knife as a remedial agent." When to this may be added the statement that Skey was second to none in the ability, dexterity, and safety of his dealings with the knife, I have, I hope, impressed on your minds the value of a creed, which having once acknowledged, you will not forswear hereafter, and if this were the only bequest that Skey has left to you, it is ample to hand down his name in the list of those who have increased the reputation of this school.

Of such manner of men as these have been many of your teachers. A skilful hospital surgeon has been fittingly described as being "one of the most elaborate products of modern civilisation." His sayings and doings are the property of a very large audience of many observers. The old description of clinical teaching that a surgeon of eminence had "gone his rounds in the hospital without once opening his mouth" can no longer anywhere be found, and we may all of us give three cheers for the departed. The clinical teaching of this school embraces all that is needful to complete, in one centre, the education of the student. I may congratulate those who attend here in having every division of work in order for learning. In his last lecture, delivered in 1868, Syme congratulated his class that in Edinburgh there were no fistula infirmaries, stone or cancer hospitals, or orthopædic institutions, so every department of surgery could be adequately represented in a

clinical course. Surely what was and is true of the great Infirmary of Edinburgh may yet be said of St. Bartholomew's despite the struggling developments of piecemeal surgery that in this Metropolis are too often without either audience or observers—those safeguards to the due protection of the public from the disasters attendant on neglect, incapacity, or experiment.

The task your appreciative confidence has imposed on me is nearly finished. I have endeavoured to place before you the gains to surgical art and science that have been won since the time when I myself was first a student in this place. Each succeeding generation of men is prone to regard its own period as *the* one to be lauded, surpassing all gone before. If this be so, I will content myself with expressing the hope that this conviction will be justified in your course of the future. But what a revelation you must have if you are to beat my record! I confess you have the materials for the work. Amid the scholastic surroundings of this ancient foundation the nurture of scientific enquiry is sedulously maintained, and you have the successors of those men some of whose doings at this hospital for the benefit not only of its own students, but of all students, I have striven to portray. Have I, or have I not aroused in your breasts thoughts concerning those figures that erewhile stood conspicuous within these walls? It is true their voices are no longer heard, but their works bear silent testimony to the value of their lives. You may trace their footprints on all sides, and it is for you, in pursuing their course, to endeavour not only to preserve them, but to make them, by your own efforts, yet more enduring. I repeat, you have the materials, and beyond these you have yourselves created assured "hostages to fortune." For nigh a century your Medical Society has flourished, and without falling off either in numbers or character, has been enabled to afford during this long period additional means for the advancement of knowledge. All the men of note connected with the hospital have in turn worked amongst its members; and to this day you perpetuate the connection of not

the least illustrious name that St. Bartholomew's claims for its own by calling it "Abernethian."

Someone has said, "Reading makes a full man, Writing an exact one." The truth of this is so apparent that no words of mine are needed to encourage the student to place his thoughts in writing. This reading and discussing of papers—constituent elements in a Society such as yours—of a certainty leads the way to a habit of reflection and to a cultivation of accuracy, and to the attainment it may be of some fresh light being thrown on subjects hitherto shadowed in darkness.

I envy the future that is before each one of you whom I now address. And to all may health and strength be granted. I have to add but a few words in justification of this venture of telling you of some time passed in the ways and thoughts of surgery, as testified to the best of my ability by myself, and this, from the earliest master of surgery in our land, Wiseman,* who says, "The study and dignity of surgery are too well known to want the help of the orator to set them forth."

* 1676. Chirurgical Treatise.

REPORTS OF CASES.

ON HERPES ZOSTER.

BY J. GIBBS BLAKE, B.A., M.D. LOND.

ON the 28th of June, 1889, a gentleman, a little over sixty years of age, called upon me complaining of pain on the outside of the thigh extending down the outside and front of the leg. I took it to be an ordinary case of sciatica, and I arranged for him to call again in a few days; but instead of coming, on the 1st of July he asked me to call and see him. The pain was very severe, and he could only stand and walk with difficulty. On examining the leg, I found below the middle of the calf several vesicles in the area supplied by the internal saphenous nerve. The largest patch was over the inner ankle. There was an epidemic of herpes zoster in Birmingham at that time, and Dr. Byrom Bramwell's "Clinical Study" on the same subject had just appeared. The diagnosis of the case was evidently herpes zoster in an unusual position. I took with me to the patient's house the diagram copied by Dr. Byrom Bramwell from Professor Flower's book,* and dotted down on it the position of the vesicles with a red crayon (fig. 1). In addition to the

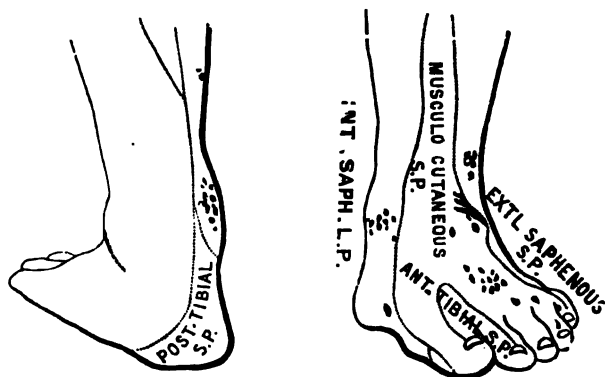


Fig. 1. The vesicles are represented by black dots.

* Diagrams of the Nerves of the Human Body. W. H. Flower, F.R.S. 1827.

above, a well-marked patch of vesicles appeared on the dorsum of the foot, in line with the third, fourth, and fifth toes, in the part supplied by the musculo-cutaneous nerve, and one vesicle appeared between the fourth and fifth toes. Two days later vesicles appeared on the sole of the foot, most numerous in the middle of the sole, one on the pad at the base of the little toe, and three on the under surface of the big toe; one of these was at the junction of the big and next toe (fig. 2). The vesicles

EXT. PLANTAR. S.P.

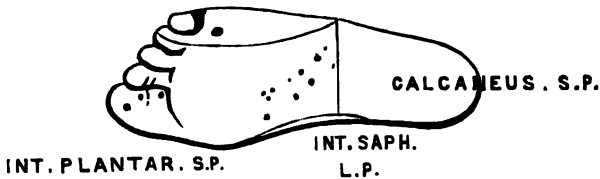


Fig. 2.

under the thickened epidermis caused a good deal of pain. They all dried up in a few days and presented the characteristic purple brown colour, and the neuralgic pain gradually subsided.

There are two points of interest in this case. First, the unusually distal position of the herpes; and secondly, the distribution of the vesicles in the area affected.

In the third number of Dr. Byrom Bramwell's "Studies in Clinical Medicine" he directed attention to the fact that "herpes zoster is seldom if ever observed on the hands or feet;" but in the fifth number, June 28th, two correspondents communicated each one case of herpes zoster of the hand. Mr. H. Taylor reports a case of herpes zoster in the *British Medical Journal* for July 6th, 1889, page 14:—"A young woman had several small clusters of vesicles on her left leg following the course of the internal saphenous nerve from below the knee to the inner ankle;" but I have not met with any recorded case where the rash has gone so near the termination of the nerves of the lower extremity as in the one described in this paper. There is some difficulty in explaining the distribution of the vesicles, because they are not limited to the area which

is classically described as supplied by one nerve, for in this case they invade the areas supplied by the internal saphenous from the lumbar plexus on the one hand, and by the posterior tibial, external saphenous, and musculo-cutaneous nerves from the sacral plexus on the other. I shall try to shew that in this patient the hypothesis of a neuritis of the great sciatic is not negatived by the distribution of the vesicles.

Recent literature on the subject of the innervation of the skin of the extremities goes to show that there are two possible explanations of the difficulty to account for the distribution :—

1. The first and most obvious explanation is the existence of an anomalous distribution of nerves ; 2. the second is that in a normal state there exists a double nerve supply to the parts in question ; and this has been found in two forms—(*a*) the overlapping of the terminal twigs of the cutaneous nerves and (*b*) the anastomosis and looping of nerves, called by Rud. Jacobi the “collateral innervation of the skin.”

With regard to the anomalous distribution of nerves, H. Hartmann* says : “Nerve fibres do not follow the fixed course that our classical authors have insisted upon. The unchangeableness of the nerve supply has been looked upon as a dogma, and it is common to contrast the fixity of the nerves with the variability of the arteries, veins, and muscles. When there is an anomalous distribution of nerves, a nerve filament is found in the place of a nerve trunk. Here, as in the case of anomalous arteries, the nerve filament is very small ; a part of the nerve fibres follow another course to arrive at their usual destination. These anomalies, which are very variable within certain limits, appear to be explained tolerably well by the mode of development of the nerves. The interest in them depends on their affording an explanation of pathological facts. Whenever we meet with symptoms which are not in accordance with our knowledge of the part, we ought to think of the possibility of an anomalous distribution of the nerves. The rôle played by

* *Bulletins de la Société Anatomique de Paris*, lxiii. Année, 5 série. tome ii., p. 164. 1888.

these anomalies is obvious, in the cases just reported of section of the median nerve of the arm without motor paralysis and without anæsthesia. It is probable that they occur in other parts of the body."

Another paper* immediately preceding that of Hartmann, in the same periodical, is devoted to the description of an anomaly of the external saphenous nerve, and is by M. Pierre Delbet. In the discussion that followed, MM. Suchard and Poirier confirmed the views of M. Delbet; and one of them went so far as to say that he could find ten anomalies of the nervous system in any man!

The second possible explanation may coexist in both (a) and (b) forms. I am indebted to Prof. Windle for the loan of a paper by Dr. H. St. John Brooks "On the Distribution of the Cutaneous Nerves on the Dorsum of the Human Hand."† In this paper, by a very careful and ingenious method of dissection, Dr. Brooks shews that in some cases the dorsal branches of the ulnar and radial nerves intercross for the space of three fingers; the basal parts of the index, middle, and a considerable part of the skin of the dorsum of the hand are thus shewn to have a double nerve supply. The application of this to the case under discussion is obvious, as we may fairly infer that a similar distribution may be discovered in the lower extremity.

We now come to the (b) form of double nerve supply which is called by Dr. Rud. Jacobi "collateral innervation of the skin." Dr. Brooks gives Dr. Jacobi credit for priority in advocating this form of double nerve supply in 1887 and 1884, but at the same time regrets that he could not consult Jacobi's longer papers.‡ A reference to the latter shews that Dr. Jacobi's conclusions are mainly drawn from a paper of Arloing and Léon Tripier published in 1869.|| These experiments on animals were under-

* Loc. cit., p. 148.

† *Internation. Monatsschrift f. Anat. und Phys.*, Bd. v., Heft 8. 1888.

‡ *Archiv. f. Psychiatrie u. Nervenkrankheiten*. Bd. xv., s. 151-183 u. 506-559. 1884.

|| *Recherches sur la Sensibilité des téguments et des nerfs de la main. Archives de Physiologie normale et pathologique*. T. ii., p. 33 et sequent.

taken to verify former observations on men, and the following results were arrived at :—

Two centimetres of a nerve were removed, and after 24 days the peripheral end of the nerve continued to be sensitive and, although the majority of the nerve tubules had undergone degeneration, some were still intact. From this and numerous other experiments on the sensibility of parts after the section of nerves Arloing and Tripier conclude that near, or in, the skin the sensory fibres of the nerves ramify and anastomose. Some of them becoming recurrent and forming what Hyrtl calls "nerves without ends." The experiments were repeated on pes as well as manus. They found also that frequently arches were formed by branches being given off from contiguous nerves, and that long loops were formed by fibres leaving one nerve and joining another and again rejoining the original nerve.

The most probable explanation of the position of the herpetic vesicles near the inner ankle in the case above reported is to suppose that an anomalous nerve supply existed, and that some branch from the posterior tibial was given off to the inner ankle, which would remove all difficulty as regards the area of distribution. However, the skin supplied by the musculo-cutaneous goes very near to the inner ankle, so that some of its fibres may overlap those of the internal saphenous in a normal condition, or some of their fibres may form a loop and become recurrent, as described by Arloing and Tripier.

The following case is interesting, as it shews how neuritis of a nerve trunk shews itself as paralysis of the parts supplied by it with motor power and as herpetic rash at the extremities of its accompanying sensory fibres :—T. R. G., æt. 27, came to see me on March 5th, 1881, with well-marked facial paralysis (Bell's paralysis) of the left side. On looking into his mouth I saw clusters of herpetic vesicles on the soft palate, the contiguous part of the hard palate, and the side of the tongue, all on the same side as the paralysis. There was tenderness and swelling of the glands behind the angle of the lower jaw, and pain referred to the meatus of the left ear, but no discharge

from the ear either then or later. In a fortnight I saw him for the third time. Then all traces of herpes had disappeared and the glands were no longer swollen. Here probably the chorda tympani and the petrosal branches of the fifth were involved in the inflammation of the portio dura of the seventh nerve, so that Bell's paralysis and herpes zoster co-existed.

Whilst writing this paper I saw another case of herpes which appeared over the middle of the frontal bone, after considerable pain in the left eye and supra-orbital region. A cluster of four vesicles were observed, on an inflamed and elevated base of the size of half-a-crown; the lowest vesicle was on the left side, two, one above the other, were in the middle line, and the fourth, higher up than all the others, was entirely on the right side. In this case the neuritis was probably in the orbital portion of the supra-trochlear nerve, and shewed its signs at the part supplied by some of its terminal twigs. But how can we explain the presence of the vesicle on the right side of the middle line? The experiments of Arloing and Tripier, referred to above,* suggest an explanation. They found that some of the terminal branches of a nerve joined other fine branches of a neighbouring nerve, that some of the nerve tubules became recurrent in the neighbouring nerve and that the sensation was carried to the centres through these tubules. In this case then we may suppose that the left supra-trochlear nerve sent a sensory fibre across the middle line to join the right supra-trochlear, and that the tactile sensibility of that minute spot depended upon impressions conveyed to the brain through the nerves of the right side.

The phenomena of hemi-anæsthesia do not negative this hypothesis, but they do prevent our resorting for an explanation to the (a) form of double nerve supply described above. If simple overlapping existed across the middle line some spots on the same side as the anæsthesia would retain their sensibility, and that is contrary to clinical observation.

* *Arch. de Phys. normale et pathologique*, 1869, also 2^{me}. Série, T. 3, p. 129, 1876.

CONGENITAL TUMOUR OF THE AXILLA.

BY BERTRAM C. A. WINDLE, M.A., M.D. DUBLIN,
PROFESSOR OF ANATOMY IN THE QUEEN'S COLLEGE, BIRMINGHAM.

I have to express my thanks to Mr. R. A. Newton for the very interesting specimen which forms the subject of this brief note. The foetus was a female, aged apparently about eight months, and weighed with the tumour six pounds. From the region of the left shoulder there grew a tumour very much the size and shape of the child's head. It appeared to arise from the anterior aspect and point of the shoulder, the arm lying entirely behind it when the foetus was placed on its back. The tumour, which was nearly globular, measured around its root, including the arm, 21·0 cm., and from its anterior to its posterior limit, 18·0 cm. It was somewhat fluctuating to the touch, giving the idea that there were harder parts at certain places.

On dissection, the tumour was everywhere covered with skin, which could however, without difficulty, be cleaned off from the tumour, which was then seen to lie in the axilla itself, having in front of it the pectoralis major, some of the fibres of which muscle, as well as of the deltoid, were reflected on to its surface. Further examination shewed that the tumour was entirely encapsulated and had no attachments save at the upper part of the axilla, where it was entered by blood vessels. At this point, when the tumour was removed, it was noticed that the entire of the clavicle was laid bare, from which it seemed probable that the tumour grew from, or at least was attached to, the sheath of that bone. The ribs of the left side, on which the tumour lay, were much flattened by pressure, but otherwise there was nothing to be remarked either in that or any other part of the foetus. The weight of the tumour when removed was a trifle under a pound. It would have probably been fully a pound had not some blood escaped from it when the vessels were cut. On section, the tumour consisted of a loculated mass, the amount of solid substance being small in

comparison with the cavities contained. These last were filled with clots of blood, a very large quantity of which was in the tumour, fully accounting for the anæmic condition of the rest of the body. A portion of the solid part was reserved for microscopic examination, and then shewed, within a thick, dense, fibrous capsule, a large number of small, round, embryonic cells, with some few of a spindle shape, leading to the conclusion that the tumour belonged to the group of congenital sarcomata.

Without entering into the question of congenital tumours at length, it may be stated that the chief forms existent, excluding those of a teratoid or dermoid nature, are lipomata, fibromata, angiomas, and sarcomata. The most interesting group of the latter are those associated with the kidney. Of the comparatively small number of sarcomata of other regions which have been recorded, I know of none which occupied a similar site to that described above.

PERISCOPE.

THERAPEUTICS.

BY ROBERT SAUNDBY, M.D. EDIN., F.R.C.P. LOND.

Antipyrin in Diabetes Insipidus.—Opitz (*Deutsche Med. Wochenschr.*, Aug. 8th, 1889.)—Opitz has published three cases of diabetes insipidus treated by antipyrin; one of these was cured, in another the cure persisted after the drug was stopped, and in the third, ~~while~~ the urine rose when the drug was discontinued, it fell again to normal on its use being resumed.

Sleep in Chorea.—H. C. Bastian (*The Lancet*, July 13, 1889).—This was a case of chorea with violent movements treated by chloral and bromide, in doses sufficient to induce sleep, and given every four to eight hours as was needed. The patient was

kept more or less continuously asleep from March 4th to April 29th. So far as the report goes no benefit appears to have followed the treatment, though ultimately the patient got well, as most cases of chorea do, in time. But the author says he has treated eight or nine cases in this way and some have been notably improved by it.

Eschholtzia.—Messrs. Christy and Co. have introduced a fluid extract of *Eschholtzia* as a substitute for preparations of opium. It is derived from the *Eschholtzia Californica*, Nat. Ord. Papaveraceæ, habitat, Western America. According to Zacchariaus it is a feeble narcotic, ten grammes of the alcoholic extract being required to kill a rabbit. It contains a basic substance giving all the reactions of morphine and a glucoside.

Whooping Cough.—Naegeli (*Correspondenz Bl. für Schw. Aerzte*).—The plan recommended by Naegeli for cutting short the paroxysms of whooping cough is as follows:—Standing in front of the child, the nurse lays firm hold, with the index and middle finger, of the ascending ramus of the lower jaw in front of the ear, places both thumbs against the chin, and by strong but gentle traction and pressure moves the lower jaw forward and downward. If the mouth is a little open, the jaw may be fixed by placing the thumb or index finger along behind the anterior lower incisors and grasping the chin with the rest of the hand, performing traction as above. In all these cases the left hand rests on the forehead of the patient and performs counter-traction. If the nurse is behind the patient, she may place both thumbs close above the angle of the jaw, the index on the zygomatic arch, and the rest of the fingers on the chin, pushing forward and downward. Immediately the upper jaw is raised, the child must be told to draw a deep breath. The plan may be adopted even if the fit comes on during sleep; and Naegeli says that if so, the child does not wake.—*Lancet*, August 17th, 1889.

Richardson on Alcohol before Chloroformisation.—In the *Asclepiad*, August, 1889, p. 239, Dr. Richardson writes that he still adheres to an old suggestion of his, that it is good to

administer a dose of alcohol by the mouth before proceeding to administer chloroform. In patients of strong and excitable temperament, a full dose of alcohol acts as a sedative, relaxing their arterial vessels, and thereby preventing the arterial tonicity and contraction which chloroform so commonly induces, and which leads to the tetanic stage of chloroform narcotism. Again, in patients with feeble heart, who are usually of nervous, hesitating mind, a previous dose of alcohol is of untold value in calming their fears and relieving the weak circulation, so that the chloroform acts rapidly and without producing toxic results. The author does not administer brandy or whisky or wine, but pure alcohol diluted with water. To an adult the dose may vary from four fluid drachms for an abstainer, to an ounce and a half for one accustomed to it as a daily beverage. The chloroform should not be given immediately the alcohol is swallowed, but it is necessary to wait until the first degree of alcoholic intoxication is produced—that is, until the vessels are injected with blood, the face is flushed, and the extremities are warm. The same rules apply to the administration of methylene bichloride and to all the anæsthetics in which chlorine forms a constituent part; for in the action of this series of chemical bodies it is the chlorine that gives the tetanic touch to the muscular fibre, voluntary and involuntary.

Perret and Devic on Antipyrin in the Treatment of Nocturnal Incontinence of Urine.—The first case in which it was tried was that of a child $4\frac{1}{2}$ years of age, who was in the habit of passing water in bed several times during the night. Belladonna and the bromides were given without any improvement. From May 20th to 27th he was given twenty-two grains of antipyrin, half at 6 p.m. and the rest at 8. During this period of time the child did not wet the bed at all. The treatment was repeated off and on for some time, and ultimately proved completely successful. Another child 8 years of age, subject to the same infirmity, was given half a drachm of antipyrin, half at 6 p.m. and the rest at 9 p.m., and the incontinence ceased with the same promptness as in the other case.—*London Medical Recorder.*

Treatment of Pulmonary Tuberculosis with Guaiacol and Creasote.—Bourget (*Correspondenz-Blatt f. Schweiz. Aerzte*, 298, May 15th, 1889) says that of all the remedies recommended for the treatment of phthisis, beechwood creasote is the only one which retains its ascendancy, although some pessimistic physicians still reject absolutely all treatment as useless. It is evident that not much is to be attained when creasote is given in doses of only two to three drops a day, but it is otherwise when larger amounts are administered. It is necessary to make the patient take the largest dose possible, without reference to what the Pharmacopœia says on the subject, only seeing that the digestive system is not seriously disturbed thereby.

Guttmann has shewn that tubercle bacilli will not grow in solutions of a strength of 1 : 2000 creasote, while cultures are but feeble in a concentration of 1 : 4000. To charge the blood in the proportion of 1 : 4000 would require the ingestion of 15 grains of the drug daily, an amount which this writer did not find it possible to give, though he administered 9 grains. Sommerbrodt has given 12 grains daily enclosed in capsules. This plan Bourget condemns on the ground that the drug thus administered will produce a very active circumscribed inflammation at the point where the capsule empties its contents. Pills of creasote made up with some resin, in the usual manner, are equally objectionable, since his experience confirms that of Goetz and Gilbert, that they very generally pass through the intestine undissolved.

For about three years he has used with very satisfactory results a method of internal and external treatment which he calls the "intensive method," and which consists in saturating the system with creasote without inconveniencing the patient. For the internal treatment he prefers guaiacol dissolved in wine or, in winter-time, in cod-liver oil. The wine is given in tablespoonful doses, each of which contains about one grain of guaiacol. Little by little this is increased to 2-3 tablespoonfuls, until many patients are able to take 15 grains of guaiacol daily.

In cases in which there is a disgust for the wine or it disagrees with the stomach, the author administers the drug by enema, in the form of an emulsion. The two forms of administration can sometimes be alternated with advantage, giving the drug by the mouth for twenty-five days, and then by the rectum for an equal time.

At the same time the author employs externally a mixture of 20 parts of creasote and 200 parts of cod-liver oil. On retiring, the patient's chest, back, and axillæ are rubbed with this. During the night, and when possible during the day also, an inhaler is worn, in which a few drops of creasote are placed.

Gradually the patient is, in this way, saturated with creasote in an amount sufficient to interfere considerably with the evolution of the bacilli. To obtain success, the treatment must be continued without intermission for three to four months.—*Amer. Jour. of Med. Science.*

Strophanthus as a Local Anæsthetic.—Many of the drugs which are useful in the treatment of cardiac disease also possess a local anæsthetic action. There is, of course, no connection, as far as can be seen at present, between the two actions. The local anæsthetic action of erythrophleine was investigated last year by many observers; the conclusions arrived at were that, although it possessed a powerful local anæsthetic action, it caused irritation and dilatation of the vessels of the conjunctiva, and in some cases even severe inflammation. It was thus much inferior to cocaine, whose action is accompanied by a constriction of vessels and consequent pallor of the part. Helleborin, the glucoside from the Christmas rose, is also a local anæsthetic and cardiac tonic.

The local anæsthetic action of strophanthus is, therefore, chiefly of pharmacological interest, like that of erythrophleine.—*British Medical Journal*, June 22, 1889.—*Amer. Journ. of Med. Science.*

Experiments on the action of Syzygium Jambolanum in Artificial Diabetes.—C. Graeser (*The Lancet*, Nov. 2nd, 1889).—Dr. C. Graeser has found that when dogs had been made

artificially diabetic by the administration of phloridzin in the proportion of 1 grm. per kilo. of body weight, the subsequent administration of extract of *syzygium jambolanum* invariably reduced the amount of sugar excreted, and also curtailed the period of excretion. The extracts were partly made from the whole fruit, partly from the rind or kernel, and concentrated so that 100 grms. of fruit were represented by $16\frac{1}{3}$ grms. of the kernel and $11\frac{1}{3}$ grms. of the rind extract. The dose was 6 to 18 grms. daily. It is still uncertain whether the active principle is in the rind or kernel—probably in both, but more in the former.

The results of three sets of observations may be thus summarized :—

	Grms.	Grms.	Grms.
Sugar excreted with phloridzin ...	12'5	10'0	10'5
Sugar excreted with phloridzin and jambul 2'1	1'0	1'0	1'5
Percentage reduction in sugar ...	80'8	84'0	85'7

These doses are much larger than those hitherto used in medicine. The powder has been usually given in doses of 5 to 10 grains. If a proportional dose is intended to be given to that used in these dogs, it would have to be from a quarter of a pound to a pound of the extract daily—rather an inconvenient dose !

CEREBRAL AND SPINAL SURGERY.

BY JORDAN LLOYD, F.R.C.S.

SURGEON TO THE QUEEN'S AND CHILDREN'S HOSPITALS, BIRMINGHAM.

Intracranial Inflammations starting in the Temporal Bone, their complications and treatment.—*Ill. Med. News*, July 6, 13, 20, 27, and August 3.—Mr. A. J. Barker took the above subject as the text for a course of "Hunterian" lectures delivered at the Royal College of Surgeons in June. The lectures should be carefully read and studied by every practitioner of medicine. Our space will not allow us to quote as fully as we should wish or as the importance of the subject demands. We shall have to be content therefore with abstracting only a few of the points of

Mr. Barker's lectures The Registrar-General's reports prove clearly that more than 400 persons die annually from "otorrhœa" or its complications. Disease is most common in the *middle* ear, and in 29 per cent. is of a suppurative character. Extension into the cranium is due to germ infection. Adults over fifteen are twice as often affected as children. The various complications are pyæmia, phlebitis of the lateral sinus, thrombosis, subdural abscesses, meningitis, cerebral and cerebellar abscess; meningitis and pyæmia most common, cerebellar and cerebral abscesses being only about one-fourth as frequent. Differential diagnosis is by no means certain, and can only approximately be arrived at by careful consideration of (1) temperature, (2) pulse, (3) bowels, (4) vomiting, (5) cerebation, (6) emaciation. Pupil changes are, in the present state of our knowledge, absolutely unreliable. Localisation symptoms are of course of the greatest possible value. With regard to treatment, prophylaxis, by early attention to every case of "otorrhœa," stands in the forefront; for without an antecedent otorrhœa the above list of maladies would rarely be seen. When intracranial inflammation has developed, surgical treatment must first be directed towards cleansing the middle ear; this can best be done through an opening into the mastoid antrum made half an inch behind and half an inch above the level of the centre of the external auditory meatus, by extension of this same opening subdural collections either in the petro-squamosal, or in the mastoidal areas may be reached. Meningeal collections must be sought for according to the locality suggested by the symptoms. Cerebral abscesses are usually in the temporo-sphenoidal lobe, and must be trephined at a point $1\frac{1}{4}$ inches behind the auditory meatus and the same distance above the level of Reid's base line. Cerebellar abscesses usually form in the anterior part of the lateral cerebellar lobes, and must be sought at a point $1\frac{1}{2}$ in. behind and 1 in. below the base line. In cases of doubt, exploration is recommended. About twelve successful operations for cerebral abscess have already been recorded; and only a few weeks since Macewen operated

successfully on an abscess of the cerebellum. Barker has recorded the first successful operation for localised meningitis.

On Drainage in the Treatment of certain Injuries and Diseases involving the floor of the Cranium.—Dr. Allis, of Philadelphia, relates the case of a man (*Annals of Surgery*, July, 1889) aged 21 years, who had fallen from a height and received a compound comminuted depressed fracture of the right frontal bone, with laceration of the brain. Immediate removal of the fragments was practised and an opening made through the cribriform plate of the ethmoid bone into the nasal cavity, through which two rubber tubes were carried for drainage. These were removed by the twelfth day and the patient made a perfect recovery. Remarks are appended with reference to similar drainage being arranged for through the base of the skull in other situations.

Trephining for Brain Tumour—The following case is reported by Fischer (*Wien. Medizin. Presse*, No. 25, 1889).—Patient, æt. 37, suffered in 1887 from an epileptic attack with subsequent mono-brachial paresis and disturbance of sensibility, aphasia and sluggishness of left pupil. Patient was trephined but nothing was found; temporary improvement followed in all the symptoms. Five months later he was again trephined, and a round-cell sarcoma found and shelled out of the ascending frontal convolution; the cavity was tamponed with iodoform. Rapid healing took place, but two months later symptoms of cephalalgia and paresis returned and the patient died comatose.

Operative Cure of a case of Brain Abscess.—Dr. G. von Donhoff, of Athens, Georgia, reports the following (*Annals of Surgery*, Aug., 1889).—Male, 35 years, came under his care in May, 1888. Two years before was struck on head by a musket in a drunken encounter. Saw a doctor next day and his injury regarded as trivial, treatment being more particularly directed to fractures of a rib and sternum. Subsequently he had maintained fair health, but on the whole had deteriorated, becoming unable to work, or rest comfortably, and having occasional fits of "fainting spells." Examination shewed right fistulous openings on and about the

left parietal eminence and zygoma. The underlying entire left parietal and squamous portion of the temporal bones were bare. A free incision was made through the boggy scalp, and a ragged hole discovered in the bone a little above the root of the zygoma. Fifteen square inches of bone were cut away with a dental engine, and at the point corresponding to the hole in the zygoma a spiculum of bone $1\frac{1}{2}$ inches long was drawn out of the brain substance. It had there formed an abscess cavity containing one ounce of stinking pus. The dura was thickened and bathed with purulent fluid. The wound was flushed and dressed with tepid salt water, and the patient made a rapid and complete recovery. The case is interesting because of the entire absence of nerve symptoms other than that of "nervous depression."

Cerebral Abscess Successfully Treated by Trephining.—Dr. Wright (*N. Y. Med. Rec.*, Sept. 21st,) reports the case of a man, aged 41 years, who complained of numbness and weakness in the right hand coming on five weeks after self-inflicted contusions of the head. On examination, the right leg, arm, and face were paretic. He had paroxysmal pain over the left parietal bone and short periods of aphasia during the next two weeks. He then became stupid and ultimately comatose, with incontinence of fæces and urine; the pupils were contracted and irresponsive to light; pulse 48, and respiration slow and regular. In this condition he was trephined over the left fissure of Rolando. The dura was healthy and was reflected back; the brain surface was healthy, and was punctured with a hypodermic needle, pus being found at some distance from the surface, 10 drachms were liberated, cavity washed with plain water, drained, and flap stitched down. On following day patient pulled out the drainage tube, and the wound soon afterwards healed. At the time of reporting, the paresis was said to be "disappearing."

Case of Traumatic Cerebral Hæmorrhage.—Mr. C. T. Bond, Leicester (*Illust. Med. News*, Sept., 1889), reports the case of a child, aged 3 years, who was knocked down by a horse on March 10th. There was then no evidence of injury to the

skull, with the exception of superficial abrasions over the left parieto-temporal region. On March 12th the child became pale and drowsy, and its temperature fell below normal. Next morning left arm and leg gradually paralysed, patient becoming unconscious, with stertorous breathing, pallor, and feeble, irregular pulse. Death appearing imminent, without chloroform the skull was trephined over left-arm centre. Brain was tense, bulging, but not pulsating. It was punctured with grooved needle in several directions with negative results. The dural and skin flaps were laid down and sutured. Three hours later he swallowed food and recognised his mother. A hernia cerebri formed at wound, with complete left hemiplegia — arm, leg, trunk, face, and tongue. The process of healing was slow, but on Oct. 6th the wound was solid; "the movements of hand and fingers" were not yet recovered. The diagnosis made at the time was—"Laceration of the right cerebral hemisphere, leading to hæmorrhage and later on to inflammatory effusion round the clot." The subsequent history of the patient is instructive and important. He remained well for three months; then the hernia began again to bulge and the hemiplegia returned. Four months later he had fits, and the temperature rose to 105°. The fits recurred every few minutes, and the child soon afterwards died. The *post mortem* shewed purulent basal meningitis and a large tough-walled abscess, occupying the greater part of the parietal lobe, and extending from the summit of the hemisphere above to the temporo-sphenoidal lobe below, and backwards to the occipital lobe. It is interesting to note in this case that the angular gyrus on the right side was destroyed without any loss of vision resulting.

The Surgery of the Spine.—Dr. J. W. White, of Philadelphia (*Annals of Surgery*, July, 1889), publishes an excellent paper on spinal surgery. To systematise the subject, he divides the cases which may require operative interference into three groups: 1, traumatisms; 2, caries; 3, neoplasms. Under each of these heads interesting historical accounts are given, with lists of cases and the summarised conclusions of most of the leading

authorities who have written on the subject. Spinal surgery is of more ancient date than is usually imagined. It was suggested as far back as the days of Paulus Ægineta, and was certainly attempted in the early years of the last century. From a careful study, Dr. White concludes that, 1st, the objections urged against operative interference in spinal traumatism were partly theoretical, and have been shewn to be unsupported by clinical facts. Results since the introduction of anæsthetics and antiseptics are distinctly encouraging, and justify surgical operation in certain cases of fracture or dislocation. 2nd. That the paralysis of Pott's disease is due in most instances to extra-medullary proliferation of connective tissue occupying the space between the dura and the anterior surface of the laminæ, and is therefore frequently removable by operation. 3rd. Every case of focal spinal lesion thought to depend on localised non-malignant tumour should be regarded as amenable to operative interference. 4th. The method of extension (suspension), as recently revived, is well worthy of preliminary trial in the first two classes, and in obscure cases thought to belong to the third class. 5th. Looked at in the light of patients' prospects in the event of non-interference, the surgery of the spine has a rapidly widening field, and deserves more serious and careful consideration at the hands of practical surgeons. Dr. White reports two operations performed by himself.

Successful Case of Spinal Resection.—Dawbarn (*N. Y. Med. Journal*, June 29) reports a case of spinal resection for fracture in which some improvement was noted after operation. The patient fell six months before and fractured his spine between the last dorsal and first lumbar vertebræ. Treatment by braces, massage, and electricity had no influence on the paraplegia. Operation was decided upon with the object of replacing the detached portion of the column. An H-shaped incision was made, the long arms running on either side of the middle line of the back. After section through the laminæ the latter could be raised from the cord with the flaps. The right eleventh lamina was crushed below the level of its fellows, and was so adherent

to the theca that its removal was a difficult matter. The cord being freely exposed formed a distinct angle backwards. There had evidently been a fracture of the body of the 12th dorsal which had been thrown backward. To free the cord from any possible pressure the arches of the 10th, 11th, and 12th vertebræ were removed. The theca was not opened. Antiseptic dressings completed by a plaster of Paris jacket. Wound healed primarily. Ten weeks after the operation "marked improvement" is recorded. It is regrettable that no later report of the case is at hand.

OTOLOGY.

BY CHRISTOPHER LEWIS, M.D.

Necrosis and Caries of the Temporal Bone Treated with Acids.—Dr. Ole Bull (*Archives of Otolaryngology*).—The writer of this paper draws attention to the fact that this disease is not so rare as is generally supposed, and that it presents difficulties of diagnosis requiring continued observation of the case before the real nature of the disease is discovered. The most reliable symptom, namely, the grating felt under the probe, is available only when the affected part is accessible to the instrument, and even then, when necrosis and not caries is present, it cannot always be felt. Dr. Bull considers that the constant appearance of granulations in the same place after they have been thoroughly destroyed, is a symptom which surely indicates dead bone. The seat of the disease is generally the innermost and upper part of the bony meatus and the adjoining part of the roof of the tympanic cavity. The peculiar smell is suspicious, but not so constant that its absence can constitute negative proof of bone affection. The surest evidence is the persistency of the discharge in spite of treatment. The removal of the carious process is indicated by local treatment either by chemical or mechanical means. It is impossible to carry out operative measures without exposing the patient's life to great risk, and

so theoretically it is safer to employ chemical means, namely, by acids, by which we can act upon the dead bone and make it soluble. Sulphurous acid, which has been lauded by some writers, had to be abandoned on account of the pain which the patients experienced after using it. Experiments were then tried with different acids to find out which of them in the shortest time would decalcify bone of a certain size. The acids used were hydrochloric, nitric, phosphoric, and sulphuric, of different strengths, viz., 1, 2, 3, and 4 per cent. It was found that hydrochloric of all the acids used is capable of decalcifying bone in the shortest time. The relative proportion of time, taking 1 to represent hydrochloric acid, is for nitric acid 2, phosphoric acid 7, sulphuric acid 50 to 60. Dr. Bull finds that muriatic acid is the best solvent for the earthy particles of bone ; but all acids cause pain in the meatus, and other symptoms if applied too often or of too great strength. When the indication is to remove a sequestrum which, on account of its size, cannot be taken through the auditory canal, or to decalcify a bone so situated that we need not fear the consequences of pressure on its surroundings should it happen to swell, then the acid which does this in the shortest time is preferable. It is however doubtful if the same holds good when the dead bone is deeply situated in continuity with healthy bone. In such cases we have to take into consideration the swelling which invariably takes place when the process of decalcification begins, for such swelling may give rise to unpleasant complications. It is advisable, then, in deep-seated necrosis first to try phosphoric acid or a weak solution of muriatic acid. The writer's experience is that the prognosis is good when the disease is limited to the meatus and adjoining part of the roof of the tympanic cavity, and the patient may be cured in from six to eleven weeks. The application requires care. Small pieces of cotton soaked in the acid are laid on the diseased bone, the polypoid growths or granulations having been previously destroyed by the galvano-cautery or chromic acid. A hole is then visible varying in size from a pin's head to that of a hemp seed. When

to this hydrochloric acid had been applied several times, the hole was filled with a vascular mass, which is looked upon as cartilage proceeding from the bone bordering the dead or half-dead part. Final result, that a hole with smooth margins, and considerably larger than the original one, has formed in the region above the drum head.

Creolin in Aural Surgery.—Five to ten drops of creolin in half a litre of warm water has been used with success for syringing the ear in purulent otitis media by Eitelberg, Purjesz, and Lechswitz (*Archiv für Ohrenheilk.—Journal for Medical Sciences*). Stronger solutions cause temporary burning in the ear. Some of the same solution is used for instillation in the ear after syringing, the application being left in the ear for ten minutes. The weak solutions may be used in other acute and chronic inflammations of the middle ear for syringing and for washing out the drum cavity *per tubans*, whereupon the discharge soon ceases. Lechswitz considers that it is the strongest disinfectant and deodorising remedy for all offensive discharges of the ear cavity, diminishing the pathological secretion in otorrhœa, and is a powerful antiseptic. In cases of furunculosis in the ear creolin salve has been used (2 to 100 vaseline), but with less success than in eczema.

We have given creolin an extended trial, but do not consider it equal to a solution of perchloride of mercury either as a deodoriser or disinfectant for the ear, while it requires to be given with care in otitis media on account of the severe pain and discomfort which it causes, in some instances even when weaker solutions than advised above are given. Patients, too, with perforation of the membrane complain bitterly of the sickness which they suffer from after using the drug, and of the horrid taste left in the mouth, which interferes with their digestion. A few cases of discharge from the ear under our care have derived undoubted benefit from its use when other remedies had failed; and the drug is worthy of being tried in obstinate discharges from the ear, commencing with a weak solution and gradually increasing the strength.

Ear Disease in Diphtheria.—Dr. Orne Green (*Boston Med. and Surg. Journal*) classifies the important diseases met with in diphtheria under four groups: *Acute*—1, diphtheritic inflammation; 2, suppurative inflammation; *Chronic*—3, adhesive process in tympanum; 4, disease of muscles. The first is a true diphtheritic inflammation with true membrane in the tympanum, an extension through the Eustachian tube, and occasionally occurring in the meatus, the former giving us otitis media diphtheritica, the latter otitis externa diphtheritica. The second group is the ordinary purulent otitis media. The great characteristics of both varieties is the tendency to ulceration and destruction, with loss of large portions of the drum head of the ossicles and ulceration of bone. The two chronic forms are rather sequels of the diphtheria than accompaniments of the disease. In the adhesive variety the mucous membrane undergoes a sort of cicatricial contraction impairing the vibratory apparatus. In the last variety the various accommodative powers of the ear become affected, owing to the inflammation attacking the muscles of the pharynx and the intrinsic muscle of the tympanum, the subjective symptoms of which are fulness, pain in the ears or over the side of the head, throbbing, subjective noises and deafness. Objective symptoms will shew in 1, the false membrane covering the deeper parts. The drum membrane may be destroyed and the exposed tympanum and deep meatus covered by the false membrane. In 2, examination shews a dense redness along the manubrium and in the osseous meatus, which extends to the whole drum membrane, and which rapidly becomes almost purple. Rupture follows, with profuse otorrhœa; later, sloughing of the ossicles, caries, and mastoid inflammation may follow. The treatment advised is a free incision of the entire posterior half of the membrane, with antiseptic cleansing and drainage. Two symptoms are of grave importance—1st, loss of bone conduction, which points to serious disease of the labyrinth often resulting in total deafness; 2nd, symptoms pointing to the brain, which usually result in meningitis.

A Clinical Study of some Antiseptics in the Treatment of Otorrhœa.—Dr. Randolph, Baltimore (*Medical Record*), points out how difficult it is to obtain an antiseptic condition of the middle ear, owing to the numerous spaces and pockets found in the middle ear where discharge can become lodged and engender organism. "On the posterior wall there is the opening into the antrum mastoideum, or horizontal portion of the mastoid process; from thence we pass into the mastoid process itself, where are located the mastoid cells; here we have an array of pockets, chambers, recesses, in which micro-organisms can secure lodgment." The antiseptics which Dr. Randolph used were carbolic acid, iodoform, boracic acid, and an acid sublimate solution; and his experience extends over fifteen months' treatment. His results with carbolic acid have not been satisfactory unless with solutions of 5 per cent., a strength which, according to Koch, is needed to destroy the anthrax bacillus. The objection to using carbolic acid in otorrhœa is not however on the ground of its inferior antiseptic powers, but its irritating properties form the objection to its employment.

We cannot agree with the writer in discarding carbolic acid on the ground that it irritates the ear. A 10% solution in glycerine is constantly ordered by us without producing any ill effects; nor have we seen more irritation produced by carbolic acid than by any other remedy applied to the ear. The extreme sensitiveness of the meatus of some patients is such that we have known a solution of borax to produce pain and irritation, while others will apply lin. camph. co. (not on our advice) without a murmur or apparent irritation. Iodoform has not had an extended trial, for the odour is so objectionable that private patients will not tolerate it. In those cases however where the drug has been tried, the patients have been benefited.

Iodoform is no doubt a valuable drug in otorrhœa; and where cases improve under its use, the addition of equal parts of coffee will, according to our experience, do away largely with the objection to its use on account of the odour.

Boracic acid in powder is objected to owing to its having

been attended by unfortunate consequences in many recorded instances, and quotes Schwartz, Stacke, Greiming in support of this—that boracic acid should not be used when the perforation is small and the secretion very abundant, and so the saturated solution of the acid is preferred for general use. There are no doubt authentic cases on record where the indiscriminate use of boracic powder has led to grave mastoid disease and even brain symptoms. Dr. Randolph has however obtained the best results by a bichloride of mercury solution, varying in strength from 1 to 3,000 to 1 to 8,000 and 10,000; but he adds a little tartaric acid to the solution, to prevent the albuminate of mercury being precipitated according to the laboratory experiments of Dr. Laplan. The prescription used is:—

Rk Hydrarg. perchlor.	...	...	gr. ss.
Acid. tartar.	...	...	gr. xx.
Aqua, q.s., ad...	...	...	℥ v.

The ear is first to be syringed with warm water, and the sublimate solution is then poured into the ear and allowed to remain for ten or fifteen minutes, the meatus being then closed by a piece of cotton wool moistened with the fluid. Most satisfying results have been given in the cases of otorrhœa treated by the author after this method. Equally satisfactory results may be obtained we think by the bichloride alone.

Parotid Tumours due to Inflammation of the Tympanum.—Dr. Greene (*Boston Med. and Sur. Journal*).—Case 1. A tumour in front of the auricle—firm, oval, freely movable, and about the size of a filbert—appeared soon after acute pain in the ear, followed by facial paralysis. An examination of the ear shewed a purulent inflammation, which subsided under treatment, and within five days of the cessation of the discharge, the tumour disappeared. Case 2. The tumour was situated about a quarter of an inch in front of the tragus; was firm, oval, movable, and the size of an almond. There was a profuse and offensive chronic suppuration of the tympanum of several years' duration. This was treated, and within two weeks, as the discharge

diminished, the tumour disappeared. Case 3. Tumour, the size of a hazel nut, appeared in the same spot as in the above cases, and had the same characteristics, viz., smooth, painless, insensitive, without redness or fluctuation. This had appeared simultaneously with pain and discharge from the ear; but the tumour did not disappear when the discharge had ceased. Dr. Greene thinks that in all these cases he had to deal with an enlarged lymph gland in direct connection with the tympanum, although anatomy has not demonstrated this connection.

REPORTS OF SOCIETIES.

BRITISH MEDICAL ASSOCIATION.

BIRMINGHAM AND MIDLAND COUNTIES BRANCH.

PATHOLOGICAL AND CLINICAL SECTION.

Friday, October 25th, 1889, Mr. LANGLEY BROWNE, F.R.C.S.Ed., in the Chair.

Contracture of Hand.—Dr. T. Stacey Wilson shewed a patient, aged 21, suffering from contracture of her hand in the flexed position, which had persisted since an attack of hemiplegia in childhood, but in whom the contracture had been nearly removed and the muscular tone much improved by persistent rubbing and passive movement. Dr. Stacey Wilson believed that the paralysis, although originated by organic lesion, was now functional or hysterical in character, and could be overcome by appropriate means.

Oedema of Face.—Mr. Eales shewed a man, aged 45, suffering from considerable thickening of the whole skin of the face and nose, and whose appearance was much deformed by excessive oedema of the upper and lower eyelids, causing much swelling on each side, and which had resulted from repeated attacks of

erysipelas during the last few years. There was no œdema elsewhere, and no signs of cardiac or of renal affection, or of myxœdema.

Thoracic Aneurism.—Dr. Suckling shewed an iron-worker, aged 33, who for eleven months had complained of severe pain shooting round the left side. He was admitted into the Queen's Hospital, and it was found that there was bulging on the left side of the spine, in the infra-scapular region (with pulsation), and a dull area, about six inches long and two inches wide, on the left side of the spine. A systolic *bruit* could be plainly heard over this area. The radial pulses and pupils were unaffected, and the aneurism was evidently below the root of the left lung. The man had suffered from syphilis, and had done heavy work. After six weeks' rest in bed and treatment with iodide of potassium, pulsation and pain had disappeared and the dull area had much diminished in size.

Tertiary Syphilis.—Mr. Haslam shewed a woman, aged 45, who sixteen years previously had contracted syphilis from washing dirty clothes. The initial lesion was in the thumb, and was accompanied by great inflammatory action and glandular enlargement in the axilla. The secondary stage was ill marked, there being only some sore throat and falling out of hair. There was no rash. The tertiary symptoms had been severe, ulcerations having occurred on the arm, leg, scalp, neck, tongue, and angle of mouth.

Cases.—The President shewed a case for diagnosis (?) Cardiac or Aneurismal.—Mr. Gilbert Barling shewed a patient with remarkable deformities after Acute Rheumatism.—Mr. Wynne Thomas shewed for Mr. Priestley Smith (1) Hydatid Cyst of Eyebrow; (2) Adeno-Sarcoma, simulating Microcele.

The Second General Meeting was held in the Medical Institute on Thursday, November 14th; the President, Mr. D. C. LLOYD-OWEN, in the Chair.

A communication was received from the Council of the Association accepting the invitation to hold the Annual Meeting of 1890 in this City, and appointing Dr. Wade President-elect; also appointing an Arrangement Committee.

The following Members of the Association were duly elected Members of the Branch :—

Samuel Hollingsworth Agar, jun., B.A., M.R.C.S. and L.S.A., Henley-in-Arden; Thomas Ridley Bailey, M.D. Edin., Bilston; Henry Luther Ewens, M.D. Durh., the Children's Hospital; John Furneaux Jordan, M.B.R.U.I., Selly Park; Allan Edward Mahood, M.B. Durh., Queen's College; William Theophilus Ord, M.R.C.S., and L.R.C.P., Halesowen; Harry Beddoes Wetherell Plummer, M.B. Durh., West Bromwich; Charles Edwin Purslow, M.D. Lond., 192, Broad Street; E. H. Strong, M.R.C.S., the Guest Hospital, Dudley; Alfred Joseph Reeve Tyler, M.R.C.S., King's Norton; Frank Faulder White, M.R.C.S., L.R.C.P., Coventry; James Martin Young, M.B., C.M. Aberd., the Eye Hospital.

The following circular was received from the General Secretary of the Association, and a Sub-Committee was appointed to consider and report upon Dr. Rentoul's proposals contained therein.

British Medical Association.

General Secretary's Office, 429, Strand, London, W.C.

October 25th, 1889.

Sir,—In accordance with the instructions of the Council of the 16th inst., "That Dr. Rentoul's resolution be forwarded to the Branches for consideration, and that a committee be appointed to receive and digest the replies and to report upon them to the Council," I forward to you herewith copies of resolutions passed at the first general meeting of members, held at the Coliseum, Leeds, on Tuesday, the 13th, and 16th August last, with a request that you will be good enough to

place the same before your Branch, and to forward the views and suggestions of the members of your Branch at your earliest convenience.—I am, yours obediently,

FRANCIS FOWKE,

General Secretary British Medical Association.

Moved by Dr. Rentoul, seconded by Mr. Lawson Tait, and

Resolved: That the proposed resolutions of Dr. Rentoul be referred to the Council of the Association; that the Council invite the Branches and individual practitioners to forward suggestions to them; and that the Council furnish their report to the *Journal* within six months of the present date, and refer their conclusions to a general meeting.

PROPOSED RESOLUTIONS OF DR. RENTOUL.

Recognising the fact that there is an abuse of the out-patient department of our medical charities, this meeting of the British Medical Association resolves:—

1. That medical practitioners and the managers of our medical charities in the various towns and cities meet together and decide who are eligible for out-patient medical aid. This meeting suggests that the following "wage-limit" be adopted:—When a man and wife make 25s. per week and over, or a single person 20s. per week and over, that these shall be ineligible for out-patient treatment at the medical charities, except in cases of accident, and that those earning a similar rate of wage be ineligible for "home-visits;" that is, visits paid by the staff of the medical charities to sick persons at the patient's home. Further, that either the Manchester system of checking abuse or that used at the London and St. Bartholomew's Hospitals be put into force, but that preference be given to the plan used in Manchester.

2. In order that those who shall be excluded from the out-patient department of our medical charities (by the working of the previous resolution) may have the means of obtaining immediate and efficient medical, surgical, and dental treatment, and medicines, this meeting resolves that a Public Medical Service, such as that suggested in the *Journal* of June 22nd, 1889, be formed, and that this service embrace those wage-earners who are making under 45s. per week per family, and single persons under 30s. per week. And that the medical practitioners, dental surgeons, chemists, and hospital managers are requested to bring about this hospital reform, and establish a Public Medical Service with as little delay as possible.

3. That having secured hospital co-operation, and having established a Public Medical Service, the members of this Association appoint a committee, composed of two representatives elected by each Branch, and that this committee draw up a series of rules for the formation and working of a provident system, whereby wage-earners receiving up to 45s. per week per

family, and single persons 30s. per week, may, by making periodic payments during health and sickness, provide themselves, their wives and children with efficient medical and surgical treatment, and medicines.

4. That the principle of a "wage-limit" be adopted, and worked by friendly societies, tontines, and sick insurance companies; or that a "sliding scale" of payments be made to their medical practitioners, so that the present abuses may be rectified. This scale of payments to be drawn up by the committee constituted as by Resolution 3. This meeting suggests that the minimum medical fee paid by such sick clubs shall be 6s. per annum per member; that the person proposed for membership pay a fee of 3s. 6d. for the medical examination (whether admitted to membership or not) to the practitioner who so examines; that the sum of 1s. be paid for each certificate to the practitioner by the person who obtains it; and that the sum of 8d. be paid for each prescription dispensed. This meeting earnestly request the various authorities of friendly societies, tontines, and sick insurance companies to make provision for surgical and dental treatment, and to draw up a scale of fees for the same, so that they may not be depending on the medical charities for relief.

5. That this meeting, recognising the fact that there are a great number of beds in the Poor-law infirmaries (there being no less than 12,000 in 25 metropolitan Poor-law infirmaries), and many in the various fever hospitals at present unused for the clinical teaching of students, and giving due weight to the statement made in the Metropolitan Asylums Board Report of 1889, page 18, that "Your Committee cannot fail to observe the large proportion of mistakes which are made in the diagnosis of cases of small-pox and fever," desire to express their regret that the Poor-law infirmaries and fever hospitals are not open for the clinical instruction of medical students, and hope that the various authorities will direct their attention to the removal of the present restrictions, so that the educational standard may be improved, it being essential to the health of cities and towns that medical practitioners may be able to recognise fever cases at the earliest possible period.

6. That the Council and *Journal* of the Association help in every legitimate way to bring the above resolutions to a successful issue.

At a general meeting of members, held at the Mechanics' Institute, Leeds, on Friday, August 16th, 1889:

Management of Medical Charities—Dr. Rentoul, in bringing forward the motion of which he had given notice, said that he should not say anything in its support, but would simply read the resolution.

It was thereupon moved by Dr. Rentoul, seconded by Mr. Hart, and resolved unanimously—"That this general meeting of the British Medical Association views with great pleasure the action of the Charity Organisation Society of London in presenting a petition to the House of Lords praying for an inquiry into the management of the metropolitan medical charities, and earnestly hopes that the scope of the inquiry will be extended so as to include the provincial hospitals and dispensaries, and thereby obtain as complete information as is possible upon this important subject. That a

copy of this resolution be forwarded to the Lord President of the Privy Council ; that he be requested to receive a deputation thereon ; and that the Council be requested to appoint a special committee to deal with this question, and to request the Charity Organisation Society of England to form a similar committee to act in conjunction with it."

For information regarding the resolutions see remarks in the *Journal* of June 22nd ; July 6th, 13th, 20th, 27th ; August 3rd, 10th, 17th, 24th, 31st ; September 14th, 21st, 28th ; and October 12th, 1889. See also "Statistics of 130 London Hospitals," *Journal*, February 2nd, 1889, and "Progress of Provident Dispensaries," January 18th, 1887.

MR. J. BRINDLEY JAMES'S MOTION.

That the British Medical Association shall give active support and assistance to any scheme that has in view the establishment of hospital co-operation with a view to the better conducting of the out-patient department of our general hospitals, raising thereby the standard of hospital practice and extinguishing the *raison d'être* of so-called provident dispensaries and open surgeries, thus enabling general practitioners to gain an honourable livelihood.

Mr. Wood-White shewed the following cases :—

Subconjunctival Dislocation of Lens, resulting from a blow on the eye seven months previously. The eye was quiet and vision good, and the patient only noticed the lump beneath the upper lid a few weeks before admission to the hospital. Ophthalmoscopically large masses of pigment could be seen at the seat of the sclerotic rupture.

A piece of steel in the vitreous chamber.—Seven days before applying to the Eye Hospital the patient was struck with great force on the left eye by a piece of steel which flew from his hammer. Examination shewed a small opacity near the outer part of the cornea, a corresponding perforation of the iris and lens, the latter being only opaque locally. The vitreous was perfectly clear, and the steel could be distinctly seen a little below and to the outer side of the disc, one edge touching the retina where there was an exudation, and the other edge free. The case was remarkable because of the slight disturbance that the injury had caused.

Dilatation of the Stomach.—Dr. Rickards read a paper entitled "Notes on Tubing the Stomach in Dilatation from Pyloric Obstruction."

Malignant Disease of Bladder.—Mr. Barling read a paper entitled “The Diagnosis of Malignant Disease of the Bladder ; its Palliative and Radical Treatment,” the discussion upon which was postponed till the next meeting.

Growth of Bladder.—Mr. Marsh shewed a specimen of growth of the bladder, which he had excised.

MIDLAND MEDICAL SOCIETY.

Annual meeting, Saturday, November 16th, 1889, LAWSON TAIT, F.R.C.S., President, in the chair.

A very large gathering of members and friends of the Midland Medical Society was held at the Grand Hotel to hear an address from Prof. W. T. Gairdner, M.D., Professor of Practice of Physic in the University of Glasgow, and Physician in Ordinary to the Queen in Scotland, on “Legislation for the Care and Treatment of Habitual Drunkards,” which we hope shortly to publish in full.

Before the address there was a reception by the President and a conversazione, at which interesting experiments were shewn by Prof. Tilden on combustion, by Prof. Poynting on electrical transmission, and exhibits of anatomical models by Prof. Windle, drugs by Messrs. Southall, instruments and appliances by Messrs. Salt and Mr. Mappin, a calculating machine, etc.

After the address a discussion took place.

The President, in opening the discussion, said he thought that the difficulty in the way of further legislation was not a false idea of “the liberty of the subject” so much as a fear of new places being made for medical men.

Dr. Wade moved a vote of thanks to the lecturer, and it was seconded by the Rev. Dr. Gardiner, who said that he saw no remedy for confirmed drunkenness but that which had been suggested in the paper.

Dr. Norman Kerr said that a few years ago Judge Day ruled

that, no matter what be the cause of the insanity, if a man be temporarily out of his mind, that man was irresponsible. (Applause.) Other decisions in a like spirit had lately been made. But he did not welcome them, because they lightened the punishment of the accused. Light punishment was not cure. They only strengthened, to his mind, the logical necessity for compulsory and rational treatment of drunkards. He did not believe there was any human drunkard irreclaimable. But the larger his experience grew, and the more he could find out of the history of cases, the fewer became the cases in which he did not trace a disease element in past stages. They were only at the beginning of this subject, and it was for them not to propound theories, but to accumulate facts.

Dr. Saundby thought there was no pathological tendency which made a man go and drink alcohol for the first time, and predicted great difficulty in framing an acceptable definition of the "habitual drunkard."

Dr. Grey, having conducted for thirteen years a home for the inebriates under the Habitual Drunkards' Acts, testified that he had had clergymen, medical men, lawyers, and people of all other ranks of society in his care, and that after twelve months' detention many of them were still, after seven or eight years, sober men. Some of these, for months after their entrance to the home, were unable to find a door in the house or to recollect for ten minutes what had been said or what they had said, and were nine or ten months in getting back to a complete state of health. He heard general complaints, however, especially in respect to female drunkards, that it was utterly impossible in their depraved condition to get them to sign a consent to enter the home; and most patients, when they did so, were under strong pressure from their friends.

The Rev. Canon Bowlby recalled Aristotle's distinction between actions committed by a man *ἀγνοον* (in a state of ignorance) and *δι' ἀγνοiαν* (owing to ignorance). The difference lay between actions due to ignorance which a man had brought upon himself by lack of the opportunities of knowledge, and

actions the consequences of which a man had had no opportunity of measuring. As to the state of the law, he agreed very closely with Dr. Norman Kerr. Every man who was through drunkenness likely to commit actions dangerous to society ought, for his own sake and for the sake of the community, to be subjected to compulsory detention. The difficulty of definition did not seem to him formidable, if the matter were left in the hands of thoroughly competent medical men. (Applause.)

Dr. Wade asked leave to add to his motion as follows:—
“That this meeting is strongly in favour of fresh legislation in the direction of compulsory provisions for the detention and treatment of well-defined cases of habitual inebriety, in the interest of the individual and of the community at large.”

With the consent of the seconder, the resolution as amended was carried unanimously.

In reply, Dr. Gairdner said he believed definition to be impossible. Where an habitual drunkard ends and an insane man begins no one, he thought, could tell. But the matter depended not on that, but on the practical ascertainment of whether a man was uncontrollable or not. (Applause.)

The members and guests afterwards took supper together, the table being spread in honour of the lecturer.

QUEEN'S COLLEGE MEDICAL SOCIETY, BIRMINGHAM.

Annual Meeting, Wednesday, October 23rd, W. F. HASLAM, F.R.C.S., President, in the Chair.

The Annual Report shewed that the Society was in a satisfactory condition, that eleven papers had been read, and that many cases and specimens had been exhibited during the past Session. Ten new members were elected.

The following officers were elected for the ensuing Session :—
President, Dr. T. Nelson ; Vice-President, Mr. J. Hall-Edwards ; Treasurer, Mr. J. H. Brice ; Secretaries, Dr. Allan E. Mahood and Mr. J. Hugh Sproat. Council : Mr. W. F. Haslam, Mr. Augustus Clay, Prof. Windle, Dr. Purslow, Dr. Grinling, Dr.

Wm. Richards, Mr. F. W. Richards, Mr. J. Neal, Mr. Guy Dain, and Mr. Woolley.

Mr. Haslam read a Valedictory Address upon "Recent Advances in Surgery."

An Ordinary Meeting of the above Society was held on Wednesday, November 13, 1889, the President, Dr. T. NELSON in the Chair. Eight new members were elected.

Specimens.—Melanotic Sarcoma.—Mr. L. P. Gamgee exhibited for Dr. Saundby, an eye, liver, and lungs, extensively affected with melanotic sarcoma; also microscopic sections of the liver.

Hydatid Degeneration of the Chorion.—Dr. Mahood exhibited a Hydatid Mole weighing about a pound and a half; also a microscopic section shewing the structure of the cysts.

Congenital Tumour of Axilla—exhibited by Dr. Mahood for Prof. Windle. The tumour weighed a pound, and the microscopic section presented the appearance of the so-called "congenital sarcoma."

Dr. Purslow read a very interesting paper upon the "Use and Abuse of the Forceps in Midwifery Practice." The paper was illustrated by numerous specimens of forceps and was followed by an animated discussion.

REVIEWS.

THE ELECTRIC ILLUMINATION OF THE BLADDER AND URETHRA.*

THE appearance of a second edition within eighteen months of the first shews that Mr. Fenwick's book has obtained a deserved popularity, and that the profession have not been slow to grasp the advantages to be gained from examining the urinary passages with electric light.

The present volume is a very considerable expansion of the first, and we propose here to draw attention only to the additions. A chapter is devoted to the methods of making a permanent representation of what is seen in the interior of the bladder, so that the surgeon may have a guide as to the future extension of the disease. For this purpose photography is confessed at present to be a failure, and a substitute is recommended in a model of clay or wax. Photographs of several of these models are introduced in the text; but we fear that good commensurate to the labour expended on them is hardly to be expected. Another chapter describes the visual fallacies of electric cystoscopy in the healthy and in the diseased bladders. This demands careful reading at the hands of those without experience in this method of examining.

The value of the electric cystoscope as a diagnostic agent in renal and vesical hæmaturia, pyuria, foreign bodies, stones, etc., is dwelt upon at some length, almost every point being illustrated by citation of a case or cases; and it is to this excellent plan that much of the value of the present volume is due.

Mr. Fenwick points out the marked advantage that electric cystoscopy has over digital exploration for diagnostic purposes, and compares his results by the former with those of Sir H.

* The Electric Illumination of the Bladder and Urethra. By E. Hurry Fenwick, F.R.C.S. Second edition. London: J. and A. Churchill.

Thompson by the latter. He expresses the curious opinion that the early use of the cystoscope will not tend to limit the size and number of vesical papillomata, and bases his belief on the grounds that these tumours do not obey a fixed law of development, and do not increase in size *pari passu* with the duration of symptoms. Further, that a tumour may be "latent" for a long time, and only give rise to symptoms when it has attained considerable dimensions. Speaking generally, we have little doubt that vesical growths, like all others, have a tendency to increase in size the longer they exist; and that if a surgeon finds a tumour when symptoms have only existed a few months, he will have less to remove than when symptoms have existed for a few years. It is owing to the want of precision in diagnosis, such as the cystoscope can give, that vesical tumours have not in the past been attacked early, but have been allowed to become of considerable size and to spoil the good results of operation by wearing out the patients with previous hæmorrhages, and by causing dilative changes in the upper urinary passages.

The chapters on the electric illumination of the urethra appear to be practically the same as those in the first volume.

A TEXT BOOK OF PHYSIOLOGY.*

WE welcome with great pleasure the second volume of this truly admirable physiology. As in its predecessor, descriptions of the histology of organs go hand in hand with accounts of their function, and are illustrated by Stöhr's beautiful figures. Methods of preparation are placed separately in an appendix, but a reference number to the method used is affixed to the description of most of the figures. This is just as it should be. We have no hesitation in saying that we believe this work to be the text-book for medical students, and especially for those

* A Text Book of Physiology. By J. G. McKendrick, M.D. Vol. ii., Special Physiology. Glasgow: James Maclehose and Sons. 1889.

reading for University or other of the higher examinations. That the physiological worker will place it in his library goes without saying. We shall not attempt to criticise the book but conclude by giving the author's opinion about Dr. Norris' work on the blood, which will, we believe, be of interest to local readers. "After careful examination," he says, "of numerous photographs submitted to my inspection by Norris I am satisfied that the pale corpuscles cannot be accounted for by supposing that they are simply decolourised red corpuscles, or that they have assumed the appearances in the photograph by reason of the processes to which they have been subjected." . . . "I think that Norris has demonstrated a corpuscle not usually seen, which is probably a *transitional corpuscle*, that is one which, in the evolution of the ordinary red blood corpuscle has not yet received its full complement of hæmoglobin." This recognition of Dr. Norris' work will gratify all admirers of his patient and long-continued labours.

A TEXT BOOK OF PHYSIOLOGY.*

THE first edition of this text book was issued in 1876, and since that time four others and a reprint have succeeded it.

Here we might conclude, for the book of which this can be said requires at this period of its existence little note or comment. It may suffice to say that the present volume deals with the tissues of chemical action with their respective mechanisms. The well-known plan of former editions is still adhered to, histological descriptions and figures being excluded, save where absolutely necessary for explanatory purposes. That this is the best method for medical students is a question at least open to discussion; but that it has been eminently successful in Prof. Foster's hands is one which has long ago been settled in the affirmative.

* A Text Book of Physiology. By M. Foster, M.A., M.D. Fifth edition. Part ii., comprising Book ii. London: Macmillan and Co. 1889.

A TEXT BOOK OF GENERAL THERAPEUTICS.*

THIS book has for its object the discussion of those modes of treatment which involve the use of agencies such as food, climate, water, etc., and does not, as might almost be expected from its title, enter at all into the general therapeutic principles underlying treatment by the exhibition of drugs. It also deals with a number of more or less well-defined recent additions to our means of combating disease to some of which indeed the term "general" might be thought scarcely applicable. Among these may be mentioned treatment by washing out the stomach, massage, the "Weir Mitchell Method," venesection, hypnotism, and suspension in diseases of the spinal cord.

We cannot expect to find very full accounts of such extensive and important subjects as treatment by climate and by diet, together with hydro- and electro-therapeutics, in the course of the 240 pages devoted to these methods ; but the main points are dwelt upon, and the necessary information is summarised in a way that cannot fail to be useful both to students and practitioners. Thus, in the section on climatology we have a very serviceable list of the health resorts, their characteristics, and the indications for their use ; while in the chapters on the various modes of treatment by water, the mineral springs and baths are similarly dealt with. The account of electricity as a medicinal agent is concise and clear.

When, however, we come to the parts of the book dealing with the less comprehensive and familiar subjects, we find much information that could not readily be gathered elsewhere ; and the value of this and of other portions of the book is enhanced by the addition of a selected bibliography of the chief books and original articles upon the subjects discussed.

One of the chief features of this book is the very able and sensible account of hypnotism as a therapeutic agent. Of the 40 pages dealing with this subject more than half are devoted

* A Text Book of General Therapeutics. By Hale White, M.D., F.R.C.P. London : Macmillan and Co. 1889.

to the consideration of the hypnotic state and the methods of inducing it, while the remainder deal with the ways in which this agency can be employed for therapeutic purposes. We do not under-estimate the responsibility that rests upon the medical man who treats a patient by this means—a responsibility that extends to his every word and action, and possibly to his every thought as well, during the time that he has abrogated his patient's power of will and has placed her nervous mechanism, for the time being, completely within the sphere of his own volition. But there is evidence that this is a power by which patients can be and have been benefited; and the advantages and disadvantages of its use are fairly worthy of discussion. As Dr. Hale White points out, it is not likely that any very extended application will be found for it in this country, both on account of the insusceptibility of Englishmen to hypnotism and also from the infrequency of neuroses among patients of the lower classes.

THE PTOMAINES, LEUCOMAINES, AND EXTRACTIVES.*

IN this paper the author advocates the possibility of the "filth-produced" class of diseases being caused by substances resulting from chemical changes rather than from bacterial agency. He says: "My experience has led me to doubt the universal applicability of the 'bacillus theory;' not that I am rash enough to deny that each disease may have a pathogenic bacillus present at some period of its course; but the question has so often occurred to me, in sporadic cases, Where has the bacillus come from?"

* The Ptomaines, Leucomaines, and Extractives: Their Position as Possible Originators of Disease. By A. S. Underhill, M.D., etc., Medical Officer of Health for Tipton, Surgeon to the Guest Hospital, Dudley. London: W. H. and L. Collingridge.

He begins by reminding us how it has been shewn by Pasteur and others that in diseases which seem, with but little doubt, due to bacilli (*e.g.*, fowl cholera) the characteristic symptoms may be produced by the injection of cultivations from which all the microbes have been removed by filtration through porcelain; thus proving that the symptoms are caused by poisons formed by the bacilli rather than by the bacilli themselves.

After a short historical sketch of the progress of our knowledge of the group of animal alkaloids, he again reverts to this question and the probability of the alkaloidal nature of the poison by which microbes produce specific symptoms. He quotes Lander Brunton's conclusions (*vide* "Croonian Lectures," 1889) that "bacilli act by producing a reacting and active organic ferment—an enzyme—which may continue active after the bacillus is destroyed."

He then goes on to speak of the "filth-produced" class of disease, and says: "As a pure matter of speculation I should consider" that these "can be produced without the intervention of a microbe." By this we suppose the author means that these diseases—among which he classes ague, diarrhoea, cholera, typhoid fever, typhus fever, diphtheria (and epidemic sore throat) puerperal and acute septicæmia, and erysipelas—can be produced without the growth of microbes in the body; for he mentions, among the conditions which give rise to them, contact with decomposing animal matter, sewage-polluted drinking-water, bad drainage, etc., conditions which owe their dangerous character almost entirely to the "intervention of microbes;" or, stated in other words, that he would consider these diseases may be due to the reception into the system of poisonous ptomaines, ferments, or allied substances, produced by the action of micro-organisms or other means, rather than to the growth in the body of any specific organism.

Of the "conclusions" with which the paper is summed up we may mention the following as being of most importance and most likely to meet with general assent:—"That the class of

animal and vegetable alkaloids is an important factor in preventive medicine; that, however formed, it is their action, by ferment or otherwise, on the blood constituents which causes the specific symptoms of disease; that it is probably this chemically altered condition of the blood which gives a future immunity to the living being acted upon; that it is not possible at present to definitely explain the connection between pathogenic chemical substances and pathogenic bacilli."

The position taken up by Dr. Underhill in this paper is a strong one, for there is much evidence to shew how large a part is taken by animal alkaloidal substances in this direction; and, although his advocacy of the "chemical theory" is a good deal stronger than the facts of the case may warrant, it cannot fail to be of use by leading his hearers and readers to formulate their own ideas, if they have not already done so, on this important and comparatively new subject.

Local Notes.

HOSPITAL ABUSE.—A large and influential meeting was held at the Medical Institute on Nov. 20th to consider this question. Dr. Wade presided. The Report, drawn up by a small Committee previously in existence, and which related the principal facts bearing upon Hospital abuse, was accepted by the meeting as fairly representing the state of the case. A Committee was then appointed to continue the enquiry.

This Committee met on Nov. 27th, under the presidency of Dr. Wade and appointed a deputation to wait on the Mayor and request him to convene a conference of those interested in Hospital administration, of members of the Hospital Saturday Fund Committee, and of the medical profession, to consider the question of Hospital Reform, or else to take such other steps as he might think fit to the same end. Mr. Marsh is acting as Hon. Sec. to the Committee.

QUEEN'S COLLEGE.—A deputation from the Council met representatives of the Medical Faculty of the University of Durham on Nov. 19th to discuss with them the question of affiliation between the College and the University. It is sought to obtain admission of the students of the Birmingham School to the examinations of the University of Durham without residence elsewhere than in Birmingham, and we believe there is a fair prospect of this being realised.

The Council have decided to found an open entrance Scholarship of the value of 30 guineas. The examination will be in general English subjects, Classics, and Biology.

NEW INVENTIONS, DRUGS, ETC.

EXT. SENNÆ LEGUM. LIQ.—In a recent number we referred to the paper by Dr. Macfarlane on the use of an infusion of senna pods as a laxative, in which it was stated that this preparation had neither the disagreeable taste nor the griping effects of preparations made from the leaves. In pursuance of this suggestion, Messrs. Arblaster and Churchill have prepared a fluid extract of senna pods, flavoured with liquorice and carminatives, which is admirably adapted for the purpose. The dose is one to three drachms. It is not at all disagreeable to the taste, and appears to be a trustworthy aperient; though it must be remembered that no drug is uniformly successful for this purpose, and sometimes one sometimes another answers best, so that a palatable addition is always a useful addition to the physician's pharmacopœia.

PUMILINE PREPARATIONS.—The value of the terebinthinate class of remedies in the treatment of the diseases of mucous membranes is well understood; and among this class, of late years, none have been so popular as the products of the *pinus pumilio*. Messrs. G. and G. Stern have sent us samples of various preparations for the external and internal administration of pumiline oil. A specially pure preparation intended for internal administration is called pumiline essence. This may be administered in the form of jujubes or it may be used for inhalation in a steam inhaler. Mixed with olive oil, the essence forms a useful liniment. A cheaper extract is supplied for use in baths.

Miscellany.

MENTAL ARITHMETIC.—Doctor: "Not so well to-day, eh? Have you kept him quiet and given him his medicine regularly?" Mrs. Richard Bevylin Buckner: "Dey ain't been nobody in de room wid him 'cept me an' de children, so he's been nice an' quiet; an' I give him de med'cine like you tole me—three spoonfuls every hour." Doctor: "Great heavens, woman, it's a wonder he's alive! I said, 'One spoonful every three hours.'" Mrs. Buckner: "Well, now, Doctah, dey ain't no diff'rence between one three an' three ones. Count 'em fo' yo' self an' see."—*Harper's Bazaar*.

New Books, etc., Received.

- An Introduction to Chemical Science. By R. P. WILLIAMS, A.M. Edited and revised by B. P. Lascelles, M.A., F.C.S. London: Guire and Co. 1889.
- Hunterian Lectures on the Morbid Anatomy, Pathology, and Treatment of Hernia. By CHARLES BARRETT LOCKWOOD, F.R.C.S. London: H. K. Lewis. 1889.
- Index Catalogue, vol. x. Surgeon-General's Department, Washington, U.S.A. 1889.
- A Handbook of Surgical Pathology. Second edition. By W. J. WALSHAM, M.B., F.R.C.S. Eng., assisted by D'Arcy Power, M.A., M.B. Oxon., F.R.C.S. Eng. London: Baillière, Tindall, and Cox. 1890.
- The Student's Surgery: A Multum in Parvo. By FREDERICK JAMES GANT, F.R.C.S. London: Baillière, Tindall, and Cox. 1890.
- On the Animal Alkaloids. By Sir WILLIAM AITKEN, Knt., M.D., LL.D., F.R.S. Second edition. London: H. K. Lewis. 1889.
- Report on the Health of the Borough of Birmingham for the Quarter ending Sept. 28th, 1889. By ALFRED HILL, M.D., F.I.C. Printed by order of the Health Committee.
- Report on the Sanitary Condition of the Borough of Birkenhead. By FRANCIS VACHER. Birkenhead: Wilson and Jones. 1889.
- The Treatment of Internal Derangements of the Knee Joint by Operation. By HERBERT WILLIAM ALLINGHAM, F.R.C.S. London: J. and A. Churchill. 1889.

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